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IN THE

# Supreme Court of the United States

OCTOBER TERM, 1965

No. 958

H. C. BAXTER & BRO. AND
GENERAL FOODS CORPORATION, *Petitioners,*

v.

THE GREAT ATLANTIC & PACIFIC TEA COMPANY, INC.,
*Respondent.*

## PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIRST CIRCUIT

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IN THE

# Supreme Court of the United States

OCTOBER TERM, 1965

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No. ———

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H. C. BAXTER & BRO. AND
GENERAL FOODS CORPORATION, *Petitioners,*

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THE GREAT ATLANTIC & PACIFIC TEA COMPANY, INC.,
*Respondent.*

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## PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIRST CIRCUIT

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Petitioners pray that a writ of certiorari issue to review the judgment of the United States Court of Appeals for the First Circuit, entered in the above-entitled case on October 29, 1965.

## CITATIONS TO OPINIONS BELOW

The opinion of the District Court* is reported in 236 F. Supp. 601, 144 U.S.P.Q. 74 (D. Me. 1965). The opinion of the Court of Appeals (App. B 20-21) is reported in 352 F.2d 87, 147 U.S.P.Q. 233 (1 Cir. 1965).

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* Printed in full in Appendix A to this petition, pp. 16-17, *infra*. Hereinafter references will be in the form: App. A followed by a page number.

## JURISDICTION

The judgment of the Court of Appeals (App. B 19) was entered on October 29, 1965. No rehearing was sought. The jurisdiction of this Court is invoked under 28 U.S.C., Section 1254(1).

## QUESTIONS PRESENTED

*Question 1.* Whether the discovery of a new, useful, and unpredictable result in the adaptation of an old process to a new use is a patentable "discovery" within the meaning of Title 35, United States Code, sections 100 and 103?**

*Question 2.* Whether the claims of a patent, and particularly those of the patent here, in suit can, as a matter of law, be "invalid under 35 U.S.C., § 112 (App. A 18) because of the extent of experimentation required of one skilled in the art in order to understand their 'teaching' [sic]"?

The quoted statement in "Question 2" is the entire ruling of law of the Court of Appeals for the First Circuit in disposing of this case. We have quoted it *verbatim* from the Opinion below (App. B 20-21) because it is not understood by petitioners and appears to be totally incompatible with any *facts* actually found by the District Court.

## STATEMENT

This is a suit for infringement of United States Letters Patent No. 2,498,024 brought by the patent owner, H. C. Baxter and Bro., a Maine partnership, and its licensee, General Foods Corporation, against an alleged infringer, The Great Atlantic & Pacific Tea Company, Inc. The patent (PR 323-325) is entitled "Prefrying Treatment of Potatoes. It

** References to the Record herein will be in the form: "PR" followed by page number to cite the printed Record Appendix of Petitioner in the Court of Appeals; "RR" to cite to that of Respondent.

has for its object the industrial production of French fried potatoes for quick freezing now produced at an annual rate of about a billion pounds in the United States. The industry requires these potatoes to be fried to a quite rigidly uniform color though the raw potatoes used are of varying sugar content and would therefore fry to varying colors if untreated. The patented process solves this dilemma.

The defendant for some years purchased its frozen French fried potatoes from the patentee, but in 1961 began its own production. The process employed is described in an agreed statement (PR 335-344). The described process is alleged by plaintiffs to be effectively the same as the patented process.

The usual defenses of invalidity for lack of invention and non-infringement were pleaded, as was also, belatedly, invalidity on the ground that the patent specification did not comply with the requirements of 35 U.S.C. § 112 (App. A 18). It was this last defense that seems to have been upheld by the District Court by its judgment (App. B 22) and opinion (App. B 24-50). No decision was made by the District Court as to the other alleged grounds of invalidity or on the issue of infringement.

An appeal was taken to the Court of Appeals for the First Circuit, where plaintiffs again sought a ruling on the issues of infringement and the other pleaded grounds of invalidity. The Court of Appeals, however, affirmed the District Court with a judgment (App. B 19) and "Per Curiam" opinion (App. B 20-21). The action of the Court of Appeals appears meaningless to petitioners and it made no ruling whatsoever on other issues not decided below.

**The Patented Process**

As described in the patent specifications, the claimed invention "relates to the treatment of raw or cooked potato particles and particularly to such particles in the form of

strips for French frying, in order to secure a desired and substantially uniform change in their color when they have been suitably cooked by frying." (*Pat. Col. 1, lines 1-6). The specifications recite that in the frying of potatoes on a commercial basis, it is important that they be suitably browned when fried; and whether suitable browning can be attained depends on their sugar content (Pat. Col. 1, lines 7-11). Where the sugar content of the potatoes is low, as is the case when the potatotes are freshly dug, the potato particles do not change color sufficiently when cooked by frying. On the other hand, if the sugar content of the potatoes is high, the particles when suitably fried are too dark because of the caramelization of the sugar.** (Pat. Col. 1, lines 12-26). While the sugar content of potatoes may be governed to some extent through a control of storage temperatures,*** the expense of controlling storage conditions is substantial (Pat. Col. 1, lines 29-37). The alleged invention purports to minimize the problem "by treating raw or cooked potato particles to establish, at least in the surface layer of the particles, a sugar content such that when the particles are suitably cooked by frying, the desired color change will result with substantial uniformity." (Pat. Col. 1, lines 40-46). This result is stated to be accomplished by immersing the particles in a solution of a sugar that may be absorbed by the particles and then cooking them by frying in a suitable medium, the characteristics of the solution, the time of immersion, and the frying time and temperature being so related to each other and to the natural sugar content of the particles that the desired

* References to "Pat." are to the patent in suit reproduced at PR 323 and to the numbered columns and lines thereof.

** As the record shows, caramelization is the degradation or breakdown of the sugar molecules by heat—what a layman would describe as burning.

*** Under normal storage conditions potatoes will acquire a relatively high sugar content. If the storage temperatures are relatively high, however, the content of the potatoes will be low. Generally, the lower the storage temperature, the higher the sugar content; the higher the storage temperature, the lower the sugar content. (Pat. Col. 3, lines 28-35).

color change is attained upon frying (Pat. Col. 1, line 46—Col. 2, line 6). In the patentee's own words,

> Where the natural sugar content is low, the treatment adds sugar to supplement any natural sugar that may be present in the particles. Where the natural sugar content is high but capable of being corrected by leaching, I dip the particles in a hot sugar solution so that at the completion of the leaching step a final sugar content is established that ensures that the desired color is secured when the particles are fried. Where the natural sugar content of some of the potatoes is high and too low in others, the hot sugar solution has a combination effect establishing and maintaining substantial uniformity of sugar content by a limited leaching action on the particles having excessive natural sugar and supplementing any natural sugar in particles having a sugar deficiency. (Pat. Col. 2 lines 7-23).

The patent specifications recite that while the sugar content of the potato particles may be determined by any suitable means, this may be done with sufficient accuracy for the purposes of the invention by frying samples under the conditions to be used in frying the particular batch of potatoes and comparing the color of the thus fried samples with a color chart showing the sugar content by color preestablished by frying various samples under uniform conditions of time and temperature. (Pat. Col. 2, lines 24-41).

The specifications further state that the primary requirement of the sugar is that it be readily absorbed by the potato particles. (Pat. Col. 3, lines 51-52). Suitable sugars are specified to be, in the class of monosaccharides, dextrose, fructose and galactose; in the class of disaccharides, sucrose, lactose and maltose; and raffinose, a trisaccharide. (Pat. Col. 3, lines 53-56). The patent states that while any of these sugars may be used, dextrose "is perhaps best suited for the practices of . . . [the] invention under commercial conditions." (Pat. Col. 3, lines 57-60). The sugar

solution may vary within substantial ranges "as between .25% to 10% by weight of the sugar to the water"; the preferred range is from .25% to 3%. (Pat. Col. 3, lines 61-64). The immersion time may also vary from ¼ to 5 minutes, but an immersion time of 1 to [illegible] minutes is preferred. (Pat. Col. 3, lines 71-74). While the temperature of the solution may range from just above its freezing point to its boiling point, the preferred range is between 60° F. and its boiling point. (Pat. Col. 3, line 74-Col. 4, line 3). The specifications state that the higher temperatures are not necessary except where a leaching action is required. (Pat. Col. 4, lines 6-8). The patentee recommends a frying time of 4½ minutes and a frying temperature of 360° F., although stating that satisfactory results are obtainable within the range of 300° to 425° F. (Pat. Col. 3, lines 8-15). Finally, the specifications recite that in practice the patentee uses a 1% dextrose solution at its boiling point and varies the dipping time in relation to the natural sugar content of the potato particles, utilizing a 1 minute dip where the natural sugar content of the particles is uniformly low; increasing the immersion time to 3 minutes if their natural sugar content is low to medium; and using a 2 minute dip if the raw potatoes are of mixed low and high natural sugar content. (Pat. Col. 4, lines 22-37).

The foregoing description of the patented invention is copied *verbatim* from the opinion of the District Court (App. B 25-27). In petitioners' opinion it is a complete, accurate, and concise summary of the patent specification. As the sole ruling by the Court of Appeals was to affirm only that part of the decision made by the District Court which concerned the alleged failure of the patent specification to comply with the provisions of 35 U.S.C. § 112 (App. A 18), we will not quote further from the trial court's opinion. However, in petitioners' opinion, the summary by the District Court (App. B 28-33) of the facts established by the evidence is a complete and accurate statement of all

the facts necessary to a judgment on the issues of validity and infringement of the claims in suit and, in petitioners' opinion, the error in that court's ruling that the specification of the patent in suit does not comply with 35 U.S.C. § 112 lies wholly in its application of the law to the stated facts. More particularly, it is plain from the trial court's summary of the proven facts that there was no experimentation in the *practice* of the patented process, but only in the selection of the potatoes to be processed. It was the potato buyer and not the potato cook who did the experimenting.

## REASONS FOR GRANTING THE WRIT

### The Case and the Questions

Petitioners have stated two questions presented. Both are presented by *the case,* though erroneous decision of Question 2 by both courts below prevented either from reaching Question 1. This petition seeks to have this Court exercise its certiorari jurisdiction to reach and decide, or bring about the decision of *both* questions.

It is *the case,* and the questions it presents, not the *opinion* below and the errors it presents, which justify the exercise of that jurisdiction.

Question 1—not decided below—is of great interest to industry generally, and particularly to those engaged in research. It is inextricably mixed with Question 2. That is to say, in this case the "discovery" sought to be patented involves the processing of an agricultural product—the potato—and a potato has all of the variations of complex living organisms making its processing to a marked degree a matter of art and of experience, and not of mathematics or of theory. If the answer to Question 1 is, "Yes," and if the discovery sought to be patented involves the processing of a living organism, the thrust of the decisions below, if their confusion between the requirements of 35 U.S.C.

§ 112 (App. A 17) as to "description" on the one hand and "claim" on the other permits any thrust fairly to be discerned, is that § 112 imposes such requirements of unattainable specificity as to make the patentability affirmed by that affirmative answer to Question 1 impossible to realize in practice.

**Question 1**

When the patent statutes were revised in 1952, the following sentence at the end of new 35 U.S.C. § 103 (App. A 16-17) appeared in them for the first time: "Patentability shall not be negatived by the manner in which the invention was made." Prior to 1952 there was much confusion in the decisions of the courts with respect to the patentability of "discoveries" as distinguished from "inventions." Many held that only the final accomplishment of a sought-for creation was entitled to patent protection.

Almost as soon as the 1952 Patent Act went into effect, the question of whether § 103 of it changed or ratified the prior case law because the burning question of the patent law. Judge Picard in the Eastern District of Michigan was one of the first to rule on the matter and he found the provision about obviousness to be merely a statement of the already established case law, *Gagnier Fibre Products Co.* v. *Fourslides, Inc.*, 112 F. Supp. 926 (E.D. Mich. 1953), but he went on to observe:

> "Attention is also directed to this clause in Section 103:
>
> 'Patentability shall not be negatived by the manner in which the invention was made.'
>
> This, we must admit is new, because in a Senate report that clause is clarified and it does change some phases of case law. As stated in the report this particular wording was used to provide the Patent Examiners and the Courts with a yardstick that in considering the patent-

ability of any article from January 1, 1953 on, it would be immaterial whether the invention

> 'resulted from long toil and experimentation or from a flash of genius.'

This wording officially not only rejects the 'flash of genius' test of Cuno Engineering Corp. v. Automatic Devices Corp., 314 U.S. 84, which this court necessarily followed in Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp., 340 U.S. 147, but it goes farther. Today one may have a patent if he just 'stumbled' upon his invention or it might even have been the result of an accident. But the 'flash of genius' is not claimed in this case."

Although Judge Picard and most courts wrestling with 35 U.S.C. § 103 since, *e.g.* the Court of Appeals for the Third Circuit sitting *en banc* in *R. M. Palmer Co.* v. *Luden's, Inc.*, 236 F. 2d 496 (3 Cir. 1956), have related the Congressional intent to the overruling of the unfortunately worded "flash of genius" dictum in the *Cuno** case, it also clearly and squarely overrules the attempt of one-time Judge Thurman Arnold to introduce subjective, as opposed to objective, tests of patentability, *Potts* v. *Coe*, 140 F. 2d 470 (D.C. Cir. 1944), on motion to vacate, 145 F. 2d 27 (D.C. Cir. 1944).

This Court should now add its authoritative voice to that of Congress, laying the ghost of subjective tests of patentability which Judge Arnold attempted to insert into the patent law from criteria he evolved from the perfervid record of T.N.E.C. as effectively as it laid another patent law spectre from the same Chas. Addams source in *Special Equipment Co.* v. *Coe.*, 324 U.S. 370 (1945). Discoveries made by accident or diligent trial and error are as patentable as those made by inspiration or intelligence and this Court should say so.

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* *Cuno Corp.* v. *Automatic Devices Corp.*, 314 U.S. 84, 91 (1941).

In the present case, the inventor builded better than he knew at first and solved a problem by a process he evolved before he knew the problem existed, for he thought he had invented how to add fry color to potatoes that would not color enough by using a dilute sugar solution bath. His present co-plaintiff General Foods established that that mere "add-color" aspect of his process had been publicly used some years before his invention. Patentee did not learn of this prior art until years after the patent had issued. But his early work with his process in its initial add-color aspect led to the discovery—or realization—by him that in certain circumstances the process would produce a new and surprising result—namely, that a dilute sugar solution bath may provide a simultaneous treatment applicable to potato pieces of varying sugar content and hence of varying fry color so that upon simultaneous frying all the pieces will have substantially the same color. As the resume of the patent specification already set forth clearly shows, he clearly described in the patent itself both the sought-for "add-color" invention he thought he had made and the serendipitous uniformity producing process he actually also discovered. Thus, a discovery sought to be patented, and the one now asserted to have been validly so patented, was made by accident and as an unforeseen and unpredictable, though inherent, consequence of the application of the dilute sugar solution bath under proper conditions.

Whether such a discovery so made is patentable, if new, is essentially Question 1.

No case in which "the manner in which the invention was made" has been an issue has heretofore reached this Court. It would be a great help to the Patent Bar and to manufacturers in all fields for this Court to express its opinion on this important question. It is not a question involved directly in, or to be decided indirectly by, decision of any of the four cases involving another aspect of 35

U.S.C. § 103 which are now awaiting decision by this Court.*

This Court should grant this petition, reverse the erroneous decision below of Question 2, and thus permit this important Question 1 to be reached and decided. The billion pound yearly production of the product involved is earnest enough of the importance of the question. As President Johnson recently proclaimed:

> "The United States patent system plays a major role in an intellectual achievement of our era that is without parallel. Never before has man unlocked so many secrets of nature and applied the acquired knowledge with such beneficial effects to mankind. The Nation's gratitude is owed to the creative and ingenious work of the inventor and to others involved in the patent process—the attorney, the agent, the patent examiner.* * *" "Patents: Spur to American Progress," U.S. Dept. of Commerce, 1965, page 2.

**Question 2**

The importance of Question 2 is made clear by the confusion and misunderstanding of the statute made evident by the opinions below.

The District Court, *inter alia,* wrote (App. B 43):

> ". . . neither the patent specifications nor the claims disclose any such limitation; as a result, a person attempting to use the process could only ascertain the limitation by experimentation."

But the "limitation" referred to is *not* as a matter of law or logic, necessary, or said to be necessary, to be observed in the practice of the process as described in the patent or as practiced by the defendant.

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* *Graham* v. *John Deere Co.*, No. 11 (Oct. 1965 Term); *Calmar, Inc.* v. *Cook Chemical Co.*, No. 37 (Oct. 1965 Term); *Colgate-Palmolive Co.* v. *Cook Chemical Co.*, No 43 (Oct. 1965 Term); *United States* v. *Adams*, No. 55 (Oct. 1965 Term).

The Court of Appeals said it was affirming this ruling of the trial court when it wrote that the claims were invalid "because of the extent of experimentation required by one skilled in the art in order to ascertain their 'teaching'." (App. B 21).

Both courts below had evidently confused the descriptive part of the specification, which "discloses" or "teaches," with the claims, which "limit" or define the monopoly; 35 U.S.C. § 112 does not permit such confusion and the following analysis of the errors made below will, petitioners urge, confirm the importance to the patent law of this Court's intervention to bring the lower courts back to the plan and policy and purpose of the statute.

The purpose of patent claims is not to "teach." The claims in the *application,* as filed, should state "what the applicant regards as his invention." This is required by the *second* paragraph of 35 U.S.C. § 112. The claims in the *patent* as granted, however, recite, as a result of the examining procedure, the features of the particular process, for example, which the Patent Office regards as patentable. The recited features may be—and usually are—but a small part of the entire process described in the specification. It is horn-book law that the claims are always to be read in the light of the full description required by the *first* paragraph of 35 U.S.C. § 112. In fact, the third paragraph of the section provides that the steps in a claimed process may be identified *solely* by reference to the descriptive part of the specification.

It is clear from the evidence and the opinion of the District Court that no experimentation whatsoever was required or practiced in producing the several billion pounds of frozen French fried potatoes that have been produced by the patented process since the complaint in the first suit against General Foods was filed in 1961.

The error of law below no doubt arose as follows:

Not all potatoes may be simultaneously processed in a single batch and produce frozen French fried potatoes of the desired uniform color. In selecting the potatoes to be purchased and processed, a "fry test," fully described in the patent in suit and in the District Court's opinion (App. B 30) is used. Only those lots of potatoes are purchased in which the highest sugar content of any tested potatoes is not excessive and the difference between the highest and lowest sugar content is not over four of the seven classifications, *viz,* "very low, low, medium low, medium, medium high, high, and very high," in which the test fried potatoes are classified. For example, a load containing potatoes of medium high, high, and very high would not be purchased for immediate processing, while potatoes of low, medium low, medium and medium high sugar content could be immediately processed in a single batch and produce frozen French fried potatoes of the same desired uniform color.

In its opinion, the District Court quotes with apparent approval, petitioners' statement with respect to the nature and scope of the patentee's invention:

> "Plaintiffs appear to be in agreement with defendant that Baxter's claimed invention resided in his alleged discovery that equalization of the sugar content of the surface layers of raw potato particles of unequal natural sugar content, and hence uniform color of the fried particles, could be attained by a single sugar dip under the conditions set forth in his patent. Baxter's alleged contribution to the art of processing French fried potatoes is set forth on page 12 of Plaintiffs' Main Brief. There plaintiffs state, 'The essential novel feature of the process is the simultaneous treatment of potato pieces of varying sugar content in such manner that upon simultaneous frying all the pieces will have substantially the same color.' Indeed, plaintiffs concede that the patent itself permits no other conclusion." (App. B 34)

This is a correct statement of petitioners' position and, until Dr. Smith's testimony in this case, it was apparently the belief of all parties to the litigation, including the General Foods personnel, that when a batch of potatoes of mixed high and low sugar content (Pat. Col. 4, lines 35-36) was dipped in a hot sugar solution of medium concentration, the resulting color of the dipped potato was, on frying, the color that the potatoes of medium sugar content would have had, if fried without dipping. Apparently, the patentee and his attorney did not know—or did not have in mind at the time the application was prepared—that starch gelatinizes at 140°F. and believed that on dipping the potatoes in the sugar solution the solution *replaced* some of the potato juice with a resulting reduction of the sugar content of the juice of the potatoes of high sugar content and an increase of the sugar content of the low sugar potatoes, all as stated in the patent. Dr. Smith, however, testified that this is not so. Dr. Smith said that the sugar solution taken up by the treated potatoes is not substituted for a like quantity of potato juice, but is *added to* the potato juice so that on frying the resulting uniform color of all of the treated potatoes would be the same as the color of potatoes of high sugar content and not potatoes of medium sugar content.

The reason given by Dr. Smith for this conclusion is stated in the District Court's opinion (App. B 37-38) namely that at temperatures above 140°F. starch gelatinizes and absorbs the sugar solution from the bath which is not therefore substituted for a like quantity of potato juice. But whether the patent correctly or incorrectly states a theory of what causes the treated potatoes of *different* original sugar content to have the *same* color on frying after being subjected to the *same* treatment is entirely immaterial. The color of French fried potatoes depends not only on the sugar content of the potato juice but also on the time and temperature of cooking and the parties to this suit have in

their commercial operations selected the potatoes varying over a range suitable to be processed by using a "fry test" as described in the patent in suit, have dipped the slices to be fried cut from *all* selected potatoes in the same sugar solutions at a selected concentration for the same time, and have thereby produced French fried potatoes of uniform color of the particular shade desired for the particular customer by varying the cooking time. Perhaps the treated potatoes required a slightly shorter cooking time to have the same color as untreated potatoes of the highest natural sugar content used would have had, but no one knew it, except Dr. Smith, and but for this law suit the French fried potato industry would have continued, happy in its ignorance.

The patent statutes nowhere require any statement of a theory to explain the *why* of a new process; they require a clear prescription of the *how*. That *how* is clearly stated in the patent in suit, but the courts below found the patent invalid because the *why* seemed to have been stated incorrectly. The claims define what the monopoly is quite clearly; they do not tell how to apply the process to any particular batch of potatoes. The patent statutes leave that "teaching" or "disclosing" role to the descriptive part of the specification, but the courts below found the patent invalid because the claims covered in their monopoly all the ranges that would work with any conceivable batch of potatoes. To require more would make agricultural product processes unclaimable. It is important that this Court correct this error of the courts below, else Question 1, though requiring a "Yes" answer, will not be reached through perpetuation of the error below in the answer to Question 2.

**Summary**

We believe it will be obvious to this Court on reading the patent and the District Court's summary of the evidence (App. B 25-33) that any foreman in a food processing

establishment or any professional cook would be fully informed by the patent specification as to just what to do and how to do it in order to produce French fried potatoes of the desired uniform color from potatoes of different sugar content. We believe it will be obvious to this Court that the District Court erroneously believed that the sufficiency of the descriptive specification required by 35 U.S.C. § 112 was in some way related to the scope of the claims as ultimately allowed in the granted patent. We believe that the importance of the questions presented by this *case* is clear and their timely decision worthy of attention by this Court.

We further believe that the astounding extent of the allegedly infringing use of the patented process in these last years of the patent term also justifies this Court in granting this petition, reversing the Court of Appeals, and remanding the case to the District Court for its judgment on the specific fact aspects of the other issues of validity and infringement of the patent in suit.

## CONCLUSION

For the foregoing reasons, this Petition for Writ of Certiorari should be granted.

Respectfully submitted,

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Counsel for Petitioner.

January 27, 1966

## APPENDIX A

Title 35, United States Code, Sections 100, 101, 103, and 112:

### § 100. Definitions

When used in this title unless the context otherwise indicates—

(a) The term "invention" means invention or discovery.

(b) The term "process" means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.

(c) The terms "United States" and "this country" mean the United States of America, its territories and possessions.

(d) The word "patentee" includes not only the patentee to whom the patent was issued but also the successors in title to the patentee. July 19, 1952, c. 950, § 1, 66 Stat. 797.

### § 101. Inventions patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title. July 19, 1952, c. 950, § 1, 66 Stat. 797.

### § 103. Conditions for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made. July 19, 1952, c. 950, § 1, 66 Stat. 798.

**§ 112. Specification**

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof. July 19, 1952, c. 950, § 1, 66 Stat. 798.

## APPENDIX B

1. Text of Judgment sought to be reviewed:

UNITED STATES COURT OF APPEALS

FOR THE FIRST CIRCUIT

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No. 6516

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H. C. BAXTER & BRO., ET AL.,
*Plaintiffs, Appellants,*

v.

THE GREAT ATLANTIC & PACIFIC TEA COMPANY, INC.,
*Defendant, Appellee.*

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### JUDGMENT

October 29, 1965.

This cause came on to be heard on appeal from the United States District Court for the District of Maine, and was argued by counsel.

Upon consideration whereof, It is now here ordered, adjudged and decreed as follows: The judgment of the District Court is affirmed.

By the Court:

/s/ ROGER A. STINCHFIELD,
*Clerk.*

2. Opinion of Court of Appeals in support of judgment sought to be reviewed:

## UNITED STATES COURT OF APPEALS

FOR THE FIRST CIRCUIT

No. 6516

H. C. BAXTER & BRO., ET AL.,
*Plaintiffs, Appellants,*

v.

THE GREAT ATLANTIC & PACIFIC TEA COMPANY, INC.,
*Defendant, Appellee.*

APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MAINE

[236 F.Supp. 601]

Before ALDRICH, *Chief Judge,* HAMLIN,
*Senior Circuit Judge,** and MCENTEE, *Circuit Judge.*

*W. Brown Morton, Jr.*, with whom *W. Brown Morton, Paul A. Wescott, McLean, Morton and Boustead, Pennie, Edmonds, Morton, Taylor and Adams* and *Drummond & Wescott* were on brief, for appellants.

*Nicholas John Stathis*, with whom *William B. Mahoney, John T. Kelton, Elmer R. Helferich and Watson, Leavenworth, Kelton & Taggart* were on brief, for appellee.

### OPINION OF THE COURT

October 29, 1965.

PER CURIAM. This is an appeal from a finding of invalidity of a process patent for pretreating French fried

*Sitting by designation.

potatoes so they will fry to a substantially even color. The facts and an extensive discussion are found in the opinion of the district court, 236 F.Supp. 601. Without deciding whether the evidence justified a conclusion that the patent claims in suit are invalid because wholly inoperative, we think the evidence supports the court's holding that they are invalid under 35 U.S.C. § 112 because of the extent of experimentation required of one skilled in the art in order to ascertain their "teaching."

*Affirmed.*

3. Text of Judgment of District Court:

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF MAINE
SOUTHERN DIVISION

H. C. BAXTER & BRO., A PARTNERSHIP,
and
GENERAL FOODS CORPORATION, A CORPORATION OF DELAWARE, *Plaintiffs*,

v.

THE GREAT ATLANTIC & PACIFIC TEA COMPANY, INC., A CORPORATION OF MARYLAND, *Defendant*.

Civil Action No. 7-136

**FINAL JUDGMENT**

This civil action having been commenced on December 26, 1962 by H. C. Baxter & Bro., the then owner of United States Letters Patent No. 2,498,024 charging defendant with infringement of the said patent, and subsequently, by an instrument dated January 7, 1963, an undivided 13% interest in the said patent having been asigned by H. C. Baxter & Bro. to General Foods Corporation, and General Foods Corporation having been joined as a party plaintiff on February 14, 1964, and plaintiffs having relied only upon claims 1, 6 and 7, of the said patent, and this civil action having come on to be heard by the Court sitting without a jury upon all of the pleadings of the parties and upon the pre-trial order entered herein on March 10, 1964, and trial having been had and testimony and proofs on behalf of the parties having been taken, and briefs having been submitted and arguments having been presented by the parties, and due deliberation having been had thereon, and the

Court having rendered a written opinion on December 10, 1964, directing, among other things, that judgment be entered dismissing the complaint;

NOW, THEREFORE, on motion of William B. Mahoney, Esq., attorney for defendant, IT IS HEREBY ORDERED, ADJUDGED AND DECREED:

1. That this Court has jurisdiction of the parties and of the subject matter of this cause.

2. That claims 1, 6 and 7, of United States Letters Patent No. 2,498,024 are invalid.

3. That the complaint herein be, and the same hereby is, dismissed with prejudice.

4. That defendant's counterclaim herein, insofar as it seeks a declaratory judgment that claims 1, 6 and 7, of United States Letters Patent No. 2,498,024 are invalid, be, and the same hereby is, sustained.

5. That plaintiffs shall recover no profits or damages or any other monetary payment from defendant.

6. That defendant have and recover of plaintiffs, jointly and severally, full costs and disbursements to be taxed by the Clerk of this Court, and that defendant have execution therefor against plaintiffs, jointly and severally.

7. That defendant's prayer that it be awarded a reasonable attorneys' fee be, and the same hereby is, denied.

Dated: Portland, Maine

December 18, 1964

/s/ EDWARD T. GIGNOUX
Edward T. Gignoux
United States District Judge

Judgment entered this 18th day of December, 1964.

/s/ MORRIS COX
*Clerk*

4. Opinion of District Court:

UNITED STATES DISTRICT COURT

DISTRICT OF MAINE
SOUTHERN DIVISION

H. C. BAXTER & BRO., A PARTNERSHIP,

and

GENERAL FOODS CORPORATION, A CORPORATION OF DELAWARE, *Plaintiffs*,

v.

THE GREAT ATLANTIC & PACIFIC TEA COMPANY, INC., A CORPORATION OF MARYLAND, *Defendant*.

Civil Action No. 7-136

## OPINION AND ORDER OF THE COURT

GIGNOUX, Judge.

This is an action for infringement of United States Letters Patent No. 2,498,024, entitled "Prefrying Treatment of Potatoes," issued on February 21, 1950, to John L. Baxter of Brunswick, Maine, upon application Serial No. 689,205 filed on August 8, 1946. The action was instituted on December 26, 1962, by the then owner of the patent, H. C. Baxter & Bro. Subsequently, on January 7, 1963, H. C. Baxter & Bro. assigned to General Foods Corporation an undivided 13% interest in the patent, and on February 14, 1964, General Foods was joined as a party plaintiff. Plaintiffs rely only upon claims 1, 6 and 7 of the patent. In its answer, defendant asserts the customary defenses of invalidity and non-infringement. Defendant also counterclaims for a declaratory judgment that the patent is invalid and not infringed by it, and for a reasonable attorneys'

fee and its costs. Plaintiffs seek an accounting, and both parties request appropriate injunctive relief.

As described in the patent specifications, the claimed invention "relates to the treatment of raw or cooked potato particles and particularly to such particles in the form of strips for French frying, in order to secure a desired and substantially uniform change in their color when they have been suitably cooked by frying." (Pat. Col. 1, lines 1-6). The specifications recite that in the frying of potatoes on a commercial basis, it is important that they be suitably browned when fried; and whether suitable browning can be attained depends on their sugar content. (Pat. Col. 1, lines 7-11). Where the sugar content of the potatoes is low, as is the case when the potatoes are freshly dug, the potato particles do not change color sufficiently when cooked by frying. On the other hand, if the sugar content of the potatoes is high, the particles when suitably fried are too dark because of the caramelization of the sugar.[1] (Pat. Col. 1, lines 12-26). While the sugar content of potatoes may be governed to some extent through a control of storage temperatures,[2] the expense of controlling storage conditions is substantial. (Pat. Col. 1, lines 29-37). The alleged invention purports to minimize the problem "by treating raw or cooked potato particles to establish, at least in the surface layer of the particles, a sugar content such that when the particles are suitably cooked by frying, the desired color change will result with substantial uniformity." (Pat. Col 1, lines 40-46). This result is stated to be accomplished by immersing the particles in a solution of a

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[1] As the record shows, caramelization is the degradation or breakdown of the sugar molecules by heat—what a layman would describe as burning.

[2] Under normal storage conditions potatoes will acquire a relatively high sugar content. If the storage temperatures are relatively high, however, the content of the potatoes will be low. Generally, the lower the storage temperature, the higher the sugar content; the higher the storage temperature, the lower the sugar content. (Pat. Col. 3, lines 28-35).

sugar that may be absorbed by the particles and then cooking them by frying in a suitable medium, the characteristics of the solution, the time of immersion, and the frying time and temperature being so related to each other and to the natural sugar content of the particles that the desired color change is attained upon frying. (Pat. Col. 1, line 46-Col. 2, line 6). In the patentee's own words,

> Where the natural sugar content is low, the treatment adds sugar to supplement any natural sugar that may be present in the particles. Where the natural sugar content is high but capable of being corrected by leaching, I dip the particles in a hot sugar solution so that at the completion of the leaching step a final sugar content is established that ensures that the desired color is secured when the particles are fried. Where the natural sugar content of some of the potatoes is high and too low in others, the hot sugar solution has a combination effect establishing and maintaining substantial uniformity of sugar content by a limited leaching action on the particles having excessive natural sugar and supplementing any natural sugar in particles having a sugar deficiency. (Pat. Col. 2, lines 7-23).

The patent specifications recite that while the sugar content of the potato particles may be determined by any suitable means, this may be done with sufficient accuracy for the purposes of the invention by frying samples under the conditions to be used in frying the particular batch of potatoes and comparing the color of the thus fried samples with a color chart showing the sugar content by color preestablished by frying various samples under uniform conditions of time and temperature. (Pat. Col. 2, lines 24-41).

The specifications further state that the primary requirement of the sugar is that it be readily absorbed by the potato particles. (Pat. Col. 3, lines 51-52). Suitable sugars are specified to be, in the class of monosaccharides, dextrose,

fructose and galactose; in the class of disaccharides, sucrose, lactose and maltose; and raffinose, a trisaccharide. (Pat. Col. 3, lines 53-56). The patent states that while any of these sugars may be used, dextrose "is perhaps best suited for the practice of . . . [the] invention under commercial conditions." (Pat. Col. 3, lines 57-60). The sugar solution may vary within substantial ranges "as between .25% to 10% by weight of the sugar to the water"; the preferred range is from .25% to 3%. (Pat. Col. 3, lines 61-64). The immersion time may also vary from ¼ to 5 minutes, but an immersion time of 1 to 3 minutes is preferred. (Pat. Col. 3, lines 71-74). While the temperature of the solution may range from just above its freezing point to its boiling point, the preferred range is between 60° F. and its boiling point. (Pat. Col. 3, line 74-Col. 4, line 3). The specifications state that the higher temperatures are not necessary except where a leaching action is required. (Pat. Col. 4, lines 6-8). The patentee recommends a frying time of 4½ minutes and a frying temperature of 360°F., although stating that satisfactory results are obtainable within the range of 300° to 425°F. (Pat. Col. 3, lines 8-15). Finally, the specifications recite that in practice the patentee uses a 1% dextrose solution at its boiling point and varies the dipping time in relation to the natural sugar content of the potato particles, utilizing a 1 minute dip where the natural sugar content of the particles is uniformly low; increasing the immersion time to 3 minutes if their natural sugar content is low to medium; and using a 2 minute dip if the raw potatoes are of mixed low and high natural sugar content. (Pat. Col. 4, lines 22-37).

The patent claims in suit read:

> 1. The method of treating potato particles, the natural sugar content of which is such that the desired color change cannot be attained when the particles are cooked by frying, which method comprises preparing

a solution of a sugar that may be absorbed by the particles and in which the percentage by weight of the sugar to the liquid is within the range of .25% to 3%, immersing the particles in the solution for a period of from 1 to 3 minutes to affect the sugar content in at least the surface layers of the particles, and frying the thus treated particles in a frying medium at a temperature within the range of 300° to 425° F.

6. The method of treating potato particles, the natural sugar content of which is too low to enable the desired color change to be attained when the particles are cooked by frying, which method comprises preparing a solution of a sugar that may be absorbed by the particles and in which the percentage by weight of the sugar to the liquid is from .25% to 3%, and immersing the particles in that solution for a time inverse to its concentration and within the range of from 1 to 3 minutes, thereby to secure a desired substantially uniform color change when the particles are cooked by frying.

7. The method of claim 6 in which the sugar is a monosaccharide such as dextrose, fructose, and galactose.

A brief statement of the development and commercial history of the Baxter process will be helpful to an understanding of the patent questions which are presented in this litigation. The evidence discloses that H. C. Baxter & Bro. is a business partnership, which, with its predecessor partnership, has been engaged in producing and marketing food products for many years. Baxter's original products were canned vegetables, but during World War II one of its major products was dehydrated potatoes for the United States Army. In 1944, with the end of World War II approaching, the partnership established a products development committee to find other products which might utilize its potato handling facilities. After limited experimenta-

tion with canned French fried potatoes, the Baxter management decided to develop a process for the commercial production of frozen French fried potatoes; and by the fall of 1945 the firm was devoting most of its research to this endeavor. Baxter's quality control manager, Francis R. Saunders, was in charge of the project under Mr. Baxter's general supervision.

One of the first problems encountered by the partnership in developing a process for the commercial production of frozen French fried potatoes was that of obtaining a satisfactory brown color in the finished product. Saunders found that the freshly dug potatoes he was using in his experiments turned out almost white in color when fried. Mr. Baxter recalled that during the early 1930's the partnership had attempted to reduce the cost of producing its canned cream-styled corn by substituting dextrose for sucrose as a sweetening agent, but that it had been forced to abandon the practice because the dextrose had had the undesired effect of darkening the color of the creamed corn. At a staff meeting in November 1945 he suggested that a satisfactory color for the frozen French fried potatoes might be achieved by treating the raw potato strips with a dextrose solution. Subsequently, during the fall and winter of 1945-46 Saunders conducted a series of experiments with the use of various sugar dips to obtain a satisfactory brown color after frying. He found that a sucrose dip did not produce the desired result, but that a dextrose dip did. In December 1945 Mr. Baxter first determined to apply for a patent upon the process thus developed, and in February 1946 he requested his patent counsel to prepare a patent application.

Baxter's first commercial production of frozen French fried potatoes was a sales test run for General Foods in March 1946. At that time Baxter was selling its entire production of frozen fresh vegetables to what is now the Birds

Eye Division of General Foods. Following the success of the test run, in the spring of 1946 Baxter commenced construction of a plant at Corinna, Maine, and in January 1947 it began full-scale production of frozen French fried potatoes for distribution by General Foods as a part of its Birds Eye line.[3] At about this time Baxter and General Foods entered into a written contract by which Baxter agreed to produce frozen French fried potatoes exclusively for General Foods for a period of five years. It was also orally agreed that General Foods might have free use of the Baxter patent during the term of the contract, and that the parties would collaborate in further development of the Baxter process.

The initial Baxter process for the production of frozen French fried potatoes may be briefly described as follows. Representative samples of incoming lots of raw potatoes, whether from the field or from storage, were graded as to sugar content by a "fry test." For the purposes of the "fry test," French fry strips were cut from 20 potatoes selected at random from each lot, and these were fried for 4½ minutes at a temperature of 350°F. The fried strips were then classified as to color in seven groups, namely, "very low," "low," "medium low," "medium," "medium high," "high," and "very high." If a given lot met acceptable standards,[4] the raw potatoes were successively washed, steam-peeled, inspected and trimmed for defects, mechanically sliced and cut into strips, again washed, and then blanched from 1 to 3 minutes in a hot water blancher containing a .75% dextrose solution at a temperature of

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[3] Since January 1947 Baxter has produced its frozen French fried potatoes through Snowflake Canning Company, a corporation which is wholly owned by the partnership and the individual partners.

[4] Saunders testified that the original Baxter process permitted use of potatoes in the "low," "medium low," "medium" and "medium high" groups, provided there was no more than a three-group spread in any one lot.

185°F.[5] After emerging from the blancher, the potato strips were conveyed on a wire mesh drainage belt to two stage fryers. In the first fryer they were fried for 2 minutes and 55 seconds at 340°F. In the second fryer they were fried for 1 minute and 10 seconds at 370°F.[6] After leaving the fryers, the potato strips were drained of surplus fat, air cooled, packaged, labelled and frozen.

General Foods in 1949, prior to the expiration of its 5-year contract with Baxter, commenced construction of an extension to its existing frozen foods processing plant at Caribou, Maine. Shortly thereafter it began to use the Baxter process to produce frozen French fried potatoes for its own account. As General Foods expanded its production at Caribou, it became apparent that it would no longer require Baxter's full production; and the parties mutually agreed to terminate Baxter's exclusive obligation under the 5-year contract. As a result, in 1951 Baxter began selling frozen French fried potatoes to other customers.

In 1952 both Baxter and General Foods modified the original Baxter manufacturing process by the addition of a hot water blanching step in advance of the hot dextrose dip, the purpose being to permit the processing of potatoes having a wider variation of sugar content. By the modified process the raw potatoes were still graded as to sugar content in seven groups by the "fry test"; but by the addition of the hot water blanch before the hot dextrose dip, the parties found that four of the seven groups could be used, instead of three, and the desired color of the final product

[5] Mr. Baxter described the blancher as "a long cylindrical machine; galvanized iron covers over it, and steam pipes going into it and a screw arrangement going through the bottom of it to carry the product through the water, the hot water, which, [sic] in this case the hot dextrose which is contained within the blancher."

[6] Subsequently, Baxter converted to a single fryer in which the potato strips were fried for 1½ minutes at 370-375° F.

still could be achieved.[7] Baxter and General Foods have used the modified process, essentially without change, continuously since 1952.

Following expiration of the Baxter-General Foods 5-year contract, General Foods' purchases of frozen French fried potatoes from Baxter gradually diminished and ceased altogether about 1960. In 1961 Baxter instituted in this Court an action against General Foods for infringement of its patent. This action was settled in January 1963, shortly after Baxter had commenced the present action against defendant, by the assignment to General Foods of a 13% interest in the patent.[8]

Baxter began selling frozen French fried potatoes to defendant about 1952. In 1961 defendant started construction of its own plant for the production of frozen French fried potatoes at Fort Fairfield, Maine, and its purchases from Baxter stopped when the Fort Fairfield plant began commercial production in October 1962. The process initially installed and presently used by defendant at its Fort Fairfield plant includes two plain hot water blanches prior to the dextrose dip.[9] The blanched potato strips then pass through an S-shaped flume containing a 2% dextrose solu-

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[7] It is not clear from the record whether Baxter or General Foods originated this idea. In any event, personnel from the two plants were working closely together during this period on improvements upon the original Baxter process; and as Mr. Baxter testified, "Perhaps it occurred to them first or perhaps to us, or perhaps it was a mutually conceived idea."

[8] Under the terms of the settlement General Foods agreed to pay Baxter $20,000, of which $10,000 was to be paid on the date of the settlement and $10,000 was to be paid upon termination of the present action. General Foods also agreed to pay Baxter any royalties which might accrue to General Foods by reason of its interest in the patent up to the amount of $200,000. Plaintiffs' witnesses deny that the institution of the present action was a condition of this settlement.

[9] In the first hot water blancher the raw potato strips are subjected to water at 160° F. to 170° F. for 2½ to 3 minutes; in the second hot water blancher, they are subjected to water at 170° F. to 190° F. for a further 2½ to 3 minutes.

tion at 160°F., in which they remain from 5 to 7 seconds. The evidence further discloses that defendant controls the sugar content of the raw potatoes by rigorously regulated storage under controlled temperatures, both in outside warehouses and in bin boxes in the plant, in order to level out their sugar content before they are processed.[10]

The two basic issues in this action are whether claims 1, 6 and 7 of the patent in suit are valid and whether they are infringed by defendant's process. Because, in the view of the Court, the evidence compels the conclusion that the claims in suit are invalid, the Court feels it appropriate to dispose of the case on the issue of validity, and finds it unnecessary to reach the questions raised as to infringement. Cf. *Grant Paper Box Co.* v. *Russell Box Co.*, 151 F. 2d 886, 890 (1st Cir. 1945), *on rehearing judgment vacated on other grounds*, 154 F. 2d 729 (1st Cir.), *cert. denied*, 329 U.S. 741 (1946).

Defendant's main contention, which is dispositive of this action, is that the Baxter patent is invalid on the grounds of inoperativeness and indefiniteness.[11] According to defendant, the major premise of the patent "is that immersing the potatoes in a sugar solution has an automatic combination effect of reducing the natural sugar content where it is high by leaching out sugar and supplementing the natural sugar content where it is low by adding sugar." (Post-Trial Memorandum of Defendant, p. 3.) Defendant's position is that the process described in the Baxter patent is ineffective to accomplish this asserted result because it does

[10] In May 1964, in anticipation of the trial of the present action, defendant successfully operated its Fort Fairfield plant for ten days on a commercial production basis without using dextrose (or any other sugar) in its process.

[11] Defendant also argues that the patent is invalid on various other grounds, including prior knowledge and public use, 35 U.S.C. § 102 (a) and (b), and lack of invention, 35 U.S.C. § 103. Because of the Court's conclusion that the patent is invalid for inoperativeness and indefiniteness, the Court has no occasion to consider these alternative contentions.

not leach out sugar and because some of the specified sugars do not add sugar.

Plaintiffs appear to be in agreement with defendant that Baxter's claimed invention resided in his alleged discovery that equalization of the sugar content of the surface layers of raw potato particles of unequal natural sugar content, and hence uniform color of the fried particles, could be attained by a single sugar dip under the conditions set forth in his patent. Baxter's alleged contribution to the art of processing French fried potatoes is set forth on page 12 of Plaintiffs' Main Brief. There plaintiffs state, "The essential novel feature of the process is the simultaneous treatment of potato pieces of varying sugar content in such manner that upon simultaneous frying all the pieces will have substantially the same color." Indeed, plaintiffs concede that the patent itself permits no other conclusion. Thus, plaintiffs agree that the critical concept of the patent is stated in the following paragraph of the specifications:

> Where at least some of the particles have an excess of natural sugar, but not such an excess that cannot be corrected by leaching, the sugar containing solution is hot. *This has the effect of leaching the excess natural sugar from some particles and supplementing the natural sugar, if any, in other particles to establish a substantially uniform sugar content of the surface layers of the batch.* Where all of the particles are characterized by an excess of natural sugar, the use of my invention is important as, at the end of the leaching operation, the particles have the desired sugar content. (Pat. Col. 4, lines 9 through 21). (Emphasis supplied.)

The file history of plaintiffs' patent reveals that in prosecuting the application in the Patent Office, Baxter admitted that it was known that sugar could be leached from pota-

toes by water blanching,[12] but asserted novelty in adding sugar to achieve color. Documentary and deposition prior art relied upon by defendant, however, eliminates any basis for such a contention. The documentary prior art shows that it was known prior to Baxter that the sugar content, and, more particularly, the reducing sugar content,[13] determined the amount of browning obtained by French frying of potatoes under given conditions of time and temperature. It also reveals an appreciation that the sugar content of potatoes can be controlled by storing them at regulated temperatures. (See Sweetman, Journal of Agricultural Research, Volume 41, pp. 479-489, September 15, 1930; Peacock and Brunstetter, United States Department of Agriculture Circular No. 158, March 1931; Sweetman, American Potato Journal, Volume X, pp. 169-173, September 1933; Wright et al., United States Department of Agriculture Technical Bulletin No. 507, February 1936; Rogers et al., American Potato Journal, Volume XIV, pp. 269-290, September 1937; Thornton, Abstracts of Papers 99th Meeting American Chemical Society, Cincinnati, Ohio, pp. 18-19, April 8-12, 1940; Denny and Thornton, Contributions Boyce Thompson Institute, Volume 11, pp. 291-303, 1940, Volume 12, p. 217-252, 1941, and Volume 12, pp. 405-429, 1942). Depositions in evidence further show that it was common knowledge long prior to 1945, the earliest date claimed by Baxter, among chefs and produce men supplying potatoes for French frying that when the natural sugar content of the potatoes was such that they would not brown sufficiently

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[12] This acquiescence was apparently because of the disclosure of the Brunstetter patent (U.S. No. 2,056,884, issued October 6, 1936) and the Swartz patent (U.S. No. 2,212,461, issued August 20, 1940), both of which were cited by the Patent Office examiner in rejecting Baxter's initial claims.

[13] As defendant's expert, Professor Ora Smith, testified, the sugars present in potatoes are of two types, reducing sugars and non-reducing sugars; the latter are ineffective for the purpose of obtaining the desired browning reaction except that if sufficiently high frying temperatures are employed, some browning may be obtained as the result of caramelization.

on frying, the desired browning could be attained by soaking the potato strips in a solution of sugar or dextrose for a period of several hours or overnight. (See depositions of Longo,[14] Poncelet, Weiss, Lee, Brownhoffer, Jackson, Jones, Ziegler, Micas, Sullivan, Posti, Gabrinetti and Kreis.) In sum, documentary and deposition prior art, none of which was cited to or apparently considered by the Patent Office examiner, discloses that the addition of sugar to potatoes to secure the desired color upon frying was well known long before Baxter.

The evidence thus plainly shows that, as defendant asserts and plaintiffs concede, the sole feature of novelty in Baxter's claimed invention was the use of a single sugar dip to obtain color uniformity in potatoes of varying sugar content. The serious question raised by defendant is whether the process as described by Baxter in his patent is effective to accomplish this result. Upon the record before it, the Court must conclude that it is not, both because the process described in the patent does not effect leaching at all, or at least over substantially the entire range of concentrations and immersion times specified in the claims, and because the patent includes sugars which are inoperative to attain the claimed result under the conditions of use which the claims set forth.

Evidence offered by defendant shows that with a sugar solution no leaching or reduction of sugar content occurs under the conditions described in the patent. Defendant's expert witness, Dr. Ora Smith, Professor of Vegetable

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[14] Longo, a produce man in Providence, Rhode Island, testified that he obtained the idea of dipping raw potato strips in a dextrose solution to attain a satisfactory fry color from baker friends of his, who told him that they used dextrose to attain a brown color in their baked goods. Longo also testified that he dipped the potato strips in the solution for about a minute and at first used five pounds of powdered dextrose to forty gallons of water. Professor Smith calculated that the result was a 1.5% dextrose solution. Longo varied the solution to obtain the desired degree of browning.

Crops and of Food Science and Technology at Cornell University, testified that some leaching might occur in a cool solution of sugar, but at a rate which would be too slow to be of any practical value. In any event, the patent teaches that in order to leach, the solution must be hot (Pat. Col. 4, lines 9-12). Professor Smith testified without equivocation, however, that no leaching or reduction of sugar content takes place in a hot sugar solution, that is, in a solution having a temperature of about 140°F. or higher, within the range of concentrations and durations of immersions specified in the claims. In this regard, the following excerpt from a colloquy between Professor Smith and the Court succinctly summarizes his conclusions:

> The Court: Let me ask the question again with the limitations that I believe you have indicated. Am I correct in my understanding, Professor Smith, that in your opinion immersing untreated high sugar content potatoes in a dextrose solution having a temperature of 140 degrees fahrenheit or higher will not reduce the sugar content of the potatoes?
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> • • • • •
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> The Witness: No, that will not reduce the sugar content.
>
> The Court: And that will be your opinion if the solution were within the range of one-quarter of one per cent to three per cent by weight of the sugar to the liquid?
>
> The Witness: Yes, sir.
>
> The Court: And this is for the reasons which you stated in the course of your testimony this morning?
>
> The Witness: Yes, sir.
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> The Court: Thank you very much.

Professor Smith explained that no leaching or reduction of sugar content occurs under these conditions because at temperatures of 140° F. and higher the starch gelatinizes

at the surface of the potato; and as the starch gelatinizes, it absorbs the sugar solution. While a small amount of the natural sugar in the potato may tend to move outward from the center and go into the solution, this amount is small in comparison with the sugar absorbed from the solution by the gelatinized starch. In short, the net effect with a hot sugar solution is that sugar is added to the potato surface and no leaching or reduction of sugar content occurs.

Professor Smith's conclusions are fully supported by experimental work which he conducted in conjunction with Carl O. Davis, a research associate at Cornell University. In these experiments potato strips cut from different varieties of potatoes, which had been stored at different temperatures, were blanched in solutions of dextrose and of the various other sugars specified in the patent. The temperature of the solution in each instance was 210° to 212° F., close to its boiling point. The concentration of the solution was varied over a range from .5% to 3%, and the strips were immersed in the solution for periods ranging from .5 to 4 minutes. The strips were then fried at 360° F. for periods from 3 to 5 minutes. The results of these experiments and color slides showing the fried strips were received in evidence as Defendant's Exhibits 12 (pp. 7-15, 28-34 and 36-38), and 11, 13 and 14. They showed no leaching or reduction of color.

In support of plaintiff's contention that the Baxter process is effective to "level" the varying sugar content of raw potato strips, they point to Mr. Baxter's testimony to the effect that one purpose of the single blancher process "was to reduce and equalize the color of variable-colored —originally colored strips, equalizing and having a uniformity-producing effect," and the testimony of both Baxter and Saunders that the process was "very effective" to accomplish this purpose. However, Baxter's and Saunders' testimony as to their observations in this regard is in sharp

conflict with that of Dr. Kenneth G. Dykstra, research engineer of the Birds Eye Division of General Foods, and George W. Raye, manager of General Foods' Caribou plant. Both testified that the single blancher process did not produce satisfactory results with potatoes which had "either a high or a variable sugar content." Dr. Dykstra further stated that for this reason General Foods could not utilize in the original Baxter process potatoes which had not been conditioned or stored in such a way that they had a low sugar level, and that it was necessary to store the potatoes at a temperature of "70 or something like that, to bring these sugars down to an acceptable level."[15] Raye's testimony was to the same effect.

Other than Plaintiffs' Exhibits 29 and 36, plaintiffs offered no evidence of experimental work to support the teaching of the patent that leaching or reduction of sugar content is obtained when a hot sugar solution is used. With respect to the work done by Saunders in 1945 and 1946 prior to the filing date of the Baxter application, there is no record of any experiments involving the use of a sugar dip to reduce the color of high sugar content potatoes upon frying. In fact, it is evident that the experimentation being conducted by the Baxter group in 1945 and 1946 was directed toward solving the problem of attaining sufficient color from low sugar content potatoes without over-frying.[16]

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[15] Dr. Dykstra also testified that Baxter had found it necessary to condition the raw potatoes by controlled storage in order to bring down their sugar content before they could be processed.

[16] In communicating his invention to his patent attorney, Mr. Baxter said nothing about the removal of sugar by leaching. In fact, his letter of February 28, 1946, requesting his attorney to initiate the patent application contains the following significant statement: "We have found that by dipping the cut raw stock in a 2% dextrose solution long enough for it to become a part of the outside surface of the potato we get, after frying, a beautiful golden brown color from potatoes that would never normally brown up because of low sugar. *We also find that this doesn't have any effect upon potatoes that would be normally brown because of higher sugar content.*" (Emphasis supplied.)

In rebuttal, plaintiffs offered in evidence Plaintiffs' Exhibits 29 and 36. They report the results of experiments conducted by Saunders during the course of the trial for the purpose of establishing that some leaching could be produced using a hot sugar solution within the ranges stated in the patent. Plaintiffs' Exhibit 29, however, concerned an experiment with potato chips which were dipped for 3 minutes in a .25% dextrose solution at 190° F. The results were inconclusive. While some over-all lightening may have been effected, Saunders admitted on cross-examination that uniformity of color was not achieved, for the dextrose-treated chips after frying had substantially the same variation in color as the untreated control chips. Saunders further admitted that the experiment was essentially meaningless because of the greater leaching possibilities of potato chips.

Plaintiffs' Exhibit 36 concerned an experiment involving potato strips which were blanched in a solution having the minimum dextrose (.25%) at the maximum temperature (212° F.) for the maximum time (3 minutes). All conditions were at the extremes of the claim ranges. On cross-examination, Saunders testified that he had not conducted any tests to determine whether a dextrose solution of more than .25% would effect leaching. He further admitted that in his early experimental work he had found that a .5% dextrose solution at the boiling temperature "had practically no effect in reduction of color" of medium potatoes, and that it "would tend to add sugar" to medium low, low and very low potatoes; and that his experimental work at that time "showed that there would not be any lightening effect with a 1% solution at the boiling temperature," even though the patent recommends use of a 1% dextrose solution at its boiling point in practice. (Pat. Col. 4, lines 22-27).

Thus, by plaintiffs' own admissions no leaching is obtained using a dextrose solution at .5% and higher. At best plaintiffs' evidence shows that leaching occurs only with

a .25% dextrose solution at the extreme limits of the patent claims, and even then plaintiffs have adduced no evidence that a solution having the minimum sugar content, under these conditions is effective simultaneously to add sugar to low sugar content potatoes and to produce the equalizing effect which the patent claims.[17]

The core of plaintiffs' position is contained in the statement in the patent specifications, to which reference has been made, that a hot sugar dip "has the effect of leaching the excess natural sugar from some particles supplementing the natural sugar, if any, in other particles to establish a substantially uniform sugar content of the surface layers of the batch." (Pat. Col. 4, lines 12-17). This, plaintiffs assert, is an accurate statement of the observed result of the described hot sugar dip on batches of potato strips "where at least some of the particles have an excess of natural sugar, but not such an excess that cannot be corrected by leaching . . ." (Pat. Col. 4, lines 9-11). This is the so-called "equilibrium" theory advanced by Saunders, which he finally admitted did not prove out in practice.[18] Defendant's evidence, and plaintiffs' own admissions, establish that these statements in the patent in respect of

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[17] Saunders testified that it was "questionable" that a .25% dextrose blanch would be effective to increase the sugar content of medium low potatoes so as to achieve uniformity in a batch of medium low, medium and medium high potatoes.

[18] Saunders' "equilibrium" theory was that when raw potato strips are immersed in a dextrose solution, there is an exchange of fluids and solids between the strips and the solution, so that equilibrium is achieved between the sugar content of the surfaces of the potato strips and the solution. In other words, if the sugar content of the potato strips is greater than that of the solution, sugar is leached from the strips; but if the sugar content of the potato strips is less than that of the solution, sugar is added to the strips. On cross-examination, however, he admitted that while theoretically there should be some leaching and a reduction of color if a potato containing .75% reducing sugar (a medium low potato) were dipped in a .35% dextrose solution, actually "there is some sugar deposited in the surface cells and the color would be increased slightly." It was at this point that he abandoned his "equilibrium" theory with the admission, "I don't believe it does prove out in practice."

leaching sugar from the potato are simply untrue. Thus, the patent teaches the results which are unobtainable.

Under such circumstances, the patent and all of its claims are invalid for inoperativeness. A patent may be granted only on a new and "useful" process, machine, manufacture, or composition of matter. 35 U.S.C. § 101.[19] The term "useful" as used in the patent law means that the invention must attain the result claimed by the inventor in his disclosure; in other words, it must work and accomplish the purposes set forth in the specifications. *O'Reilly* v. *Morse,* 56 U.S. (15 How.) 62, 119 (1853); *Coupe* v. *Royer,* 155 U.S. 565, 572-74, 579 (1895); *H. Brinton Co.* v. *Mishcon,* 93 F. 2d 445, 448 (2d Cir. 1937); *Moffett* v. *Fiske,* 51 F. 2d 868, 871-72 (D.C. Cir. 1931); *Besser* v. *Merrilat Culvert Core Co.,* 243 Fed. 611, 612 (8th Cir. 1917); *Commonwealth Engineering Co.* v. *Ladd,* 199 F. Supp. 51 (D.C.D.C. 1961); *Isenstead* v. *Watson,* 157 F. Supp. 7, 9 (D.C.D.C. 1957). In *O'Reilly* v. *Morse, supra* at 119, the Supreme Court spoke directly to the point in issue:

> Whoever discovers that a certain useful result will be produced, in any art, machine, manufacture, or composition of matter, by the use of certain means, is entitled to a patent for it; provided he specifies the means he uses in a manner so full and exact, that any one skilled in the science to which it appertains, can, by using the means he specifies, without any addition to, or subtraction from them, produce precisely the result he describes. *And if this cannot be done by the means he describes, the patent is void.* (Emphasis supplied.)

Even accepting plaintiffs' evidence that leaching may occur with a .25% dextrose solution at the maximum tem-

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[19] "§ 101. Inventions patentable

Whoever invents or discovers any new and *useful* process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." (Emphasis supplied.)

perature and time of immersion specified in the patent claims, neither the patent specifications nor the claims disclose any such limitation; as a result, a person attempting to use the process could only ascertain the limitation by experimentation. The law is clear that the necessity for such experimentation invalidates the patent, because of the requirement of 35 U.S.C. § 112 that:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

In *General Electric Co.* v. *Wabash Co.*, 304 U.S. 364, 369 (1938), the Supreme Court stated of this requirement:

> Patents, whether basic or for improvements, must comply accurately and precisely with the statutory requirements as to claims of invention or discovery. The limits of a patent must be known for the protection of the patentee, the encouragement of the inventive genius of others and the assurance that the subject of the patent will be dedicated ultimately to the public. The statute seeks to guard against unreasonable advantages to the patentee and disadvantages to others arising from uncertainty as to their rights. The inventor must 'inform the public during the life of the patent of the limits of the monopoly asserted, so that it may be known which features may be safely used or manufactured without a license and which may not.' (Footnotes omitted.)

The Supreme Court has many times held that the requirement of accurate definition contained in Section 112, and its predecessor, is not met when the patented process can be carried out only after independent experimentation. *Standard Brands* v. *Yeast Corp.*, 308 U.S. 34, 38 (1939);

*The Incandescent Lamp Patent*, 159 U.S. 465, 474 (1895); *Tyler* v. *Boston*, 74 U.S. (7 Wall.) 327, 330 (1868); *Wood* v. *Underhill*, 46 U.S. (5 How.) 3, 5 (1847). And see *Libbey-Owens-Ford Glass Co.* v. *Celanese Corporation of America*, 135 F. 2d 138, 144-145 (6th Cir. 1943); *Standard Oil Co.* v. *Tide Water Associated Oil Co.*, 154 F. 2d 579, 582-83 (3d Cir. 1946); 2 Walker, Patents § 163, pp. 753-55 (Deller's ed. 1937). Thus, in *Tyler* v. *Boston*, *supra* at 330, the Supreme Court stated:

> Where a patent is claimed for such a discovery, it should state the component part of the new manufacture claimed with clearness and precision, and not leave the person attempting to use the discovery to find it out 'by experiment.'

Likewise, in *Standard Brands* v. *Yeast Corp.*, *supra* at 38, the Supreme Court quoted and agreed with the following conclusion of the court below:

> '. . . But even if the process disclosed by Hayduck be held to constitute invention, the patent is invalid for indefiniteness as was held by the learned District Judge. Both the times and manner in which the concentrated nutrient solution is to be added may be ascertained as we have stated solely by experimentation. The disclosure of the patent is therefore too vague and indefinite to constitute invention.'

And in *Standard Oil Co.* v. *Tide Water Associated Oil Co.*, *supra* at 582-83, the court said:

> The most immediate test of sufficiency of precision in description following from the policy just outlined is that no inventor may compel independent experimentation by others to ascertain the bounds of his claims.

Consequently, even if plaintiffs' evidence is given the maximum credence to which it is entitled, the claims in suit are invalid because the disclosure of the patent is too vague and indefinite to meet the statutory requirement of

precision in describing the alleged invention.

Claims 1 and 6 must also be declared invalid because the patent includes within its disclosure sugars which the evidence shows are inoperative to produce the desired result. Among the sugars specifically mentioned in the specifications as useful are sucrose and raffinose. (Pat. Col. 3, lines 53-56). Professor Smith testified that sucrose and raffinose are inoperative to produce any darkening in the color of potatoes after frying under the conditions specified in the patent. Again, his conclusions are supported by the experimental work conducted by him and Davis. The results as to sucrose are set forth in Defendant's Exhibit 12 (pp. 16-27, 31-34, 36-38). In these experiments potato strips of different varieties which had been stored at different temperatures were blanched in a sucrose solution at 210-212° F., the concentration being varied over a range from .5% to 3% for periods ranging from .5 to 4 minutes. The strips were then fried at 360° F. for periods from 3 to 5 minutes. The color of the fried potato strips was then compared with the color of control potato strips which had been blanched in plain hot water but otherwise similarly treated. Color slides showing the resulting strips were received in evidence (Defendant's Exhibits 11, 13 and 14). The potato strips dipped in sucrose did not acquire in frying any darker color than the control potatoes.[20] Similar tests utilizing a one-minute dip in a 1% raffinose solution at 210-212° F., followed by frying at 360° for 5 minutes, effected no color change as compared to control samples which were blanched in plain hot water under the same conditions (Defendant's Exhibit 12, p. 38).[21]

[20] In a few instances a slightly darker color may have resulted, but Professor Smith explained that in these cases the sugars in high sugar content potatoes had probably caramelized when longer frying times were used.

[21] Professor Smith's tests also show that two other sugars specifically mentioned in the patent, maltose and lactose, and one sugar which is generally included in the patent, melibiose, do not produce browning. (Defendant's Exhibit 12, pp. 35 and 37.)

Professor Smith explained that a sucrose dip may be effective to achieve browning, but only under special conditions which are not disclosed by the patent. Thus, if potato strips are left immersed in a sucrose solution overnight,[22] the invertase in the potato causes at least part of the sucrose to break down by hydrolysis into two monosaccharides, dextrose and fructose, which are reducing sugars and which on frying serve to give the desired browning effect. Very high frying temperatures and long frying times also may cause a breakdown of the sucrose through caramelization to give a brown color. But neither condition is disclosed by the patent. In sum, Professor Smith's testimony, which was fully supported by his experimental work, was that no color change is effected with a sucrose or raffinose solution except under conditions, not taught by the patent, which may give a brown color as the result of hydrolysis or caramelization.[23]

In rebuttal, plaintiffs introduced in evidence the results of an experiment conducted under Saunders' direction during the course of the trial for the purpose of establishing that some browning could be achieved within the ranges of the patent using sucrose and raffinose solutions. This experiment was described in Plaintiffs' Exhibit 33. It involved a series of tests with individual sugars covered by the Baxter patent in an attempt to get browning with each. Both the sucrose and raffinose solutions were at a concentration of 3% and a temperature of 185° F., and a 3-minute immersion time was used. The sucrose-treated potatoes were fried for 2 minutes at 385° F.; the raffinose-treated potatoes were fried for 2½ minutes at 385° F. Saunders admitted that the maximum sugar concentration and the maximum immersion time specified in the patent claims had been employed in an attempt to get browning with

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22 This was the practice followed by some of the chefs, *supra*.

23 Professor Smith's conclusions as to sucrose are also supported by the prior documentary art. (See, e.g., Denny and Thornton, *supra*.)

these sugars because in prior experiments he had been unable to do so at other points within the patent range and he knew that these sugars did not work throughout practically the entire range of the patent. It further developed on cross-examination of Frederick W. Turner, an associate of Saunders, who had conducted the actual manipulations for the experiment, that the control samples had been fried for only 1½ minutes at a temperature of 365° F. Turner could not state, therefore, whether the sugar treatment or the longer frying time and higher frying temperature had caused any darkening of the strips which had been treated with sucrose and raffinose. For this reason the experiment was valueless. Significantly also, plaintiffs failed to exhibit the resulting strips in evidence, although counsel had stated that he intended to do so and that the frozen samples were present in Court. There is nothing in the record to indicate what the color of the samples was, and the record contains only the general statements of Saunders and his associate to the effect that the color was "satisfactory" for commercial sale.[24]

Apart from Plaintiffs' Exhibit 33, plaintiffs offered no experimental evidence to show that sucrose and raffinose were effective in carrying out the patented process. Plaintiffs' witnesses admitted that these sugars do not work throughout practically the entire range of the patent. In the view of the Court the experiment reported in Plaintiffs' Exhibit 33 is wholly insufficient to overcome defendant's comprehensive expert and experimental evidence that sucrose and raffinose are inoperative at any point within the limits stated in the patent claims. Cf. *In re Perrigo*, 18 C.C.P.A. (Patents) 1323, 48 F. 2d 965 (1931).

Claims 1 and 6 in suit envisage the use of "a sugar that may be absorbed by the [potato] particles." Under settled principles, these broadly stated claims must be read in the

[24] In fact, Turner testified that the color of the treated samples, although more uniform, was no darker than that of the untreated control strips.

light of the specification which specifically mentions sucrose and raffinose as useful for the practice of the claimed invention. (Pat. Col. 3, lines 53-56). See *Grover Mfg. Co.* v. *Linde Co.*, 336 U.S. 271, 277 (1949); *General Electric Co.* v. *Wabash Co., supra* at 373; *Holland Furniture Co.* v. *Perkins Glue Co.*, 277 U.S. 245, 255 (1928). But defendant's evidence establishes that sucrose and raffinose are inoperative to produce the desired color change under the conditions specified in the patent. Claims 1 and 6 are therefore fatally defective under the established doctrine that claims to the exclusive use of a class, some of the members of which are inoperative in carrying out the patented process, are too broad and cannot be sustained. *Holland Furniture Co.* v. *Perkins Glue Co., supra* at 256-57; *Corona Co.* v. *Dovan Corp.*, 276 U.S. 358, 385 (1928); *The Incandescent Lamp Patent, supra* at 472-76; *Patrol Valve Co.* v. *Robertshaw-Fulton Controls Co.*, 210 F. 2d 146, 151-52 (6th Cir. 1954); *Libbey-Owens-Ford Glass Co.* v. *Celanese Corporation of America, supra* at 145-46; *American Chemical Paint Co.* v. *Firestone Steel Prod. Co.*, 117 F. 2d 927, 929-30 (6th Cir. 1941); *Matheson* v. *Campbell*, 78 Fed. 910, 915-16, 923 (2d Cir. 1897).[25]

As the Supreme Court stated in *Corona Co.* v. *Dovan Corp., supra* at 385:

> We come then to the question of the validity of Claims 1, 5 and 9 of the patent, which seek to appropriate to the patentee the process of treating rubber by combining with the rubber compound 'a disubstituted guanidine.' Now the class of disubstituted guanidines includes not only D. P. G. but all other derivatives of guanidine in which two of the hydrogen atoms of the guanadine [sic] nucleus have been substituted by other groups . . . . (T)here are between fifty and one

[25] This line of authority shows that this doctrine is but a special application of the requirement of 35 U.S.C. § 112, *supra*, that the patented process must be described so precisely that independent experimentation is unnecessary.

hundred substances which answer this description, of which there is quite a number that are not accelerators at all. Weiss could certainly not claim the entire group of such compounds. He makes no showing that there is any general quality common to disubstituted guanidines which makes them all effective as accelerators. Claims for their exclusive use cannot therefore be sustained. This is shown by the decision of this Court in the *Incandescent Lamp Patent*, 159 U.S. 465, where the Court said, at page 475:

'If, as before observed, there were some general quality, running through the whole fibrous and textile kingdom, which distinguished it from every other, and gave it a peculiar fitness for the particular purpose, the man who discovered such quality might justly be entitled to a patent; but that is not the case here.'

For the reasons which have been stated, the Court holds that claims 1, 6 and 7 of the patent in suit are invalid.

Judgment will be entered dismissing the complaint, and sustaining the counterclaim insofar as it seeks a declaratory judgment that claims 1, 6 and 7 of Baxter Patent No. 2,498,024 are invalid. Since there has been no showing of such unusual circumstances in this case as to make it grossly unjust for defendant to bear the burden of its own counsel fees, defendant's prayer for an attorneys' fee is denied. 35 U.S.C. § 285. *Merrill* v. *Builders Ornamental Iron Co.*, 197 F. 2d 16, 25-26 (10th Cir. 1952); *Wilson* v. *Seng Co.*, 194 F. 2d 399 (7th Cir. 1952); *Park-In-Theatres, Inc.* v. *Perkins*, 190 F. 2d 137 (9th Cir. 1951). Compare *Plymouth Rubber Co.* v. *Minnesota Mining & Mfg. Co.*, 203 F. Supp. 595 (D.C. Mass. 1962), *aff'd and modified as to scope of injunction*, 321 F. 2d 151 (1st Cir. 1963); and *Grant Paper Box Co.* v. *Russell Box Co.*, 106 F. Supp. 616 (D.C. Mass. 1952), *aff'd*, 203 F. 2d 177 (1st Cir.), *cert. denied*, 346 U.S. 821, *rehearing denied*, 346 U.S. 905 (1953). Nor, in the view of the Court, has defendant made out a

case for the issuance of an injunction. *Jaybee Mfg. Corp.* v. *Ajax Hardware Mfg. Corp.*, 287 F. 2d 228 (9th Cir. 1961). Compare *Kessler* v. *Eldred*, 206 U.S. 285 (1907) and *Plymouth Rubber Co.* v. *Minnesota Mining & Mfg. Co.*, *supra*.

Counsel for defendant will submit a proposed form of judgment within ten days.

Dated at Portland, Maine, this 10th day of December, 1964.

/s/ EDWARD T. GIGNOUX
*Judge, United States District Court*

A true copy
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IN THE

# Supreme Court of the United States

OCTOBER TERM, 1965

No. 958

H. C. BAXTER & BRO. and GENERAL FOODS CORPORATION,

Petitioners,

v.

THE GREAT ATLANTIC & PACIFIC TEA COMPANY, INC.,

Respondent.

## BRIEF IN OPPOSITION

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIRST CIRCUIT

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IN THE

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H. C. BAXTER & BRO. and GENERAL FOODS CORPORATION,

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v.

THE GREAT ATLANTIC & PACIFIC TEA COMPANY, INC.,

Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIRST CIRCUIT

## BRIEF IN OPPOSITION

This brief is submitted by respondent in opposition to the petition, dated January 27, 1966, praying that a writ of certiorari issue to review the judgment of the United States Court of Appeals for the First Circuit which was entered in the above-entitled action on October 29, 1965. It is important to observe at the outset that the petition, which is exceedingly sparse in its references to the record, has largely distorted the evidence presented at the trial in an effort to lend some substance to petitioners' position. The petition is replete with statements of fact and law which not only are entirely unsupported by any references to the record or citations of authority, as the case may be,

but which, in many instances, are completely at variance with the facts shown by the evidence or with the prevailing law.[1] The petition represents, in essence, an attempt by petitioners to free themselves from the findings of fact which were made by the District Court and accepted by the Court of Appeals in its *per curiam* opinion.

## Questions Presented

Petitioners, at page 2 of their petition, have set forth two questions, identified as "Question 1" and "Question 2", respectively, which they contend are presented for review by "the case", which term they seek to divorce from the decisions of the two courts below (Petition, p. 7) without further definition of such term.

At page 7 of their petition, petitioners concede that neither of the two courts below decided or considered Question 1. This question was never raised by petitioners before their petition was filed. Furthermore, the question of whether discoveries "made by accident or diligent trial and error are as patentable as those made by inspiration or intelligence" (Petition, p. 9) has never been an issue in this case. Indeed, this is the first time that petitioners have characterized the purported invention as "a discovery * * * made by accident" (Petition, p. 10) or asserted any applicability of the last sentence of 35 U.S.C. § 103. Thus, petitioners are now attempting to present to this Court for adjudication issues which were not presented to either of the two courts below. Petitioners' endeavor to present these undecided issues to this Court for determination, without the benefit of consideration by either of the

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[1] In the entire petition, there are only three record references to the evidence, two to the patent in suit (PR. 323-325) (Petition, pp. 2, 4), and another to the stipulation which describes the process employed by respondent in the manufacture of frozen French fried potatoes (PR. 335-344) (Petition, p. 3).

two courts below, is improper and an imposition on this Court.

Moreover, there is no factual foundation whatsoever in the record for Question 1. There is no finding by the District Court that the patentee had made either an "adaptation of an old process to a new use" or a "discovery of a new, useful, and unpredictable result" in such adaptation. On the contrary, as will be demonstrated below, the District Court specifically found that the process described and claimed in the patent in suit did not produce the result described in the patent by the means specified in the patent, i.e., that it did not produce uniformity of color in potatoes of varying sugar content by the use of a single sugar dip (PR. 17).[2]

Thus, Question 1 is based upon an assumption of facts which are directly contrary to those actually found by the District Court on this issue. The facts incorporated by petitioners in this question simply do not exist. Question 1 is an attempt to present this case in a light not presented to or considered by either of the two courts below and not supported by the record. However interesting the question might be when presented by a record, it is not properly justiciable on the record herein.

At page 2 of their petition, after setting forth Question 2, petitioners state:

> "The quoted statement in 'Question 2' is the entire ruling of law of the Court of Appeals for the First Circuit in disposing of this case. We have quoted it *verbatim* from the Opinion below (App. B 20-21) * * *."

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[2] "PR." denotes references to the "Record Appendix to Brief for Appellants" in the Court of Appeals. "RR." denotes references to the "Record Appendix to Brief of Appellee" in the Court of Appeals. "P. Ex." denotes references to plaintiffs' exhibits. "D. Ex." denotes references to defendant's exhibits.

However, a comparison of the quoted statement in Question 2 with the opinion of the Court of Appeals reveals that not only have petitioners *not* quoted the opinion of that Court "verbatim", but that, indeed, they have changed the language of that Court by substituting the word "understand" for the word "ascertain". Having thus misquoted the opinion of the Court of Appeals, petitioners then proceed to argue upon the basis of the misquoted language.

As formulated by petitioners, Question 2 is stated in such a biased and argumentative manner as to obscure the only issue which may properly be presented. Stated in a more restrained and accurate fashion, the question is as follows:

*Question 2.* Was the Court of Appeals correct in concluding that the evidence supported the District Court's holding that Claims 1, 6 and 7, of the patent in suit are invalid under 35 U.S.C. § 112 because of the extent of experimentation required of one skilled in the art in order to ascertain their "teaching"?

As to Question 2, petitioners contend that they do not understand the *per curiam* opinion of the Court of Appeals (Petition, p. 2). However, contrary to the contention made by petitioners, and as will be demonstrated below, the conclusion of the Court of Appeals is clear and easily understandable when considered in the light of the evidence and the opinion of the District Court, and it is completely compatible with the facts found by the District Court.

## Statement of the Case

This is a civil action wherein petitioners charge respondent with infringement of United States Letters Patent No. 2,498,024 (P. Ex. 1, PR. 323-325), entitled "Prefrying Treatment of Potatoes", issued on February 21, 1950, to John L. Baxter of Brunswick, Maine, upon application Serial No. 689,205 filed on August 8, 1946. Petitioners rely upon only Claims 1, 6 and 7 of the patent.

The original complaint, in which only the then owner of the patent, H. C. Baxter & Bro., a partnership, was named as plaintiff, was filed on December 26, 1962. Subsequently, by an instrument dated January 7, 1963, plaintiff, H. C. Baxter & Bro., assigned to General Foods Corporation an undivided 13% interest in the patent. Thereafter, upon motion of respondent, General Foods Corporation was joined as a party plaintiff on February 14, 1964.

In their "Statement" of the case, at pages 2-3 of their petition, petitioners state that the patent "has for its object the industrial production of French fried potatoes for quick freezing". However, on the contrary, neither the specification nor the claims so indicate. None of the claims includes any freezing step, and, indeed, the claims in suit provide for immersion of the potato strips in a sugar solution of a stated concentration for a stated time, regardless of the use to be made of the fried potato strips.

Petitioners then proceed to state as follows (Petition, p. 3):

> "The industry requires these potatoes to be fried to a quite rigidly uniform color though the raw potatoes used are of varying sugar content and would therefore fry to varying colors if untreated. The patented process solves this dilemma."

The statement, "The patented process solves this dilemma.", is completely contrary to the facts shown by the evidence and found by the District Court. As the evidence discussed in the District Court's opinion demonstrated (PR. 17-22, 26-29), and as that Court found (PR. 17), the process described in the patent did *not* solve this dilemma, because the use of a single sugar dip, under the conditions provided for in the patent, did not produce color uniformity in potatoes of varying sugar content (PR. 17). The operative findings of fact of the District Court on this issue are

succinctly summarized in the following paragraph of its opinion (PR. 17):

> "The evidence thus plainly shows that, as defendant asserts and plaintiffs concede, the sole feature of novelty in Baxter's claimed invention was the use of a single sugar dip to obtain color uniformity in potatoes of varying sugar content. The serious question raised by defendant is whether the process as described by Baxter in his patent is effective to accomplish this result. Upon the record before it, the Court must conclude that it is not, both because the process described in the patent does not effect leaching at all, or at least over substantially the entire range of concentrations and immersion times specified in the claims, and because the patent includes sugars which are inoperative to attain the claimed result under the conditions of use which the claims set forth."

In the face of the evidence discussed by the District Court and these specific findings of that Court, petitioners, in arguing that color uniformity in potatoes of varying sugar content is achieved by the means specified in the patent, are simply asking this Court to overturn the findings of fact which were made by the District Court after full trial and careful consideration of the evidence.

The process employed by respondent in the manufacture of frozen French fried potatoes is described in the stipulation (P. Ex. 8, PR. 335-343), as amended at the trial (RR. 35-36), and further in the testimony of Roy Gibson (PR. 108-134). It includes, among other steps, an initial blanch or partial cooking of the raw potato strips in two blanchers which contain plain hot water, and then a passage of the potato strips through an "S"-shaped flume, where they are immersed for 5 to 7 seconds in a 2% solution of dextrose which has a temperature of 160° F. (P. Ex. 8, PR. 338). Additional details of respondent's process are set forth in the opinion of the District Court (PR.

13). In this connection, it should be observed that the initial hot water blanch of respondent's process is not a step of the process defined in the claims of the patent in suit.

In its affirmative defenses, which are set forth at length in Paragraphs 8 to 10, inclusive, of its "Amended Answer and Counterclaim", and in its "Amendment of Defendant's Amended Answer and Counterclaim", dated March 17, 1964, respondent averred in substance that the patent in suit was invalid upon the grounds, among others, of inoperativeness (Paragraph 8.H.) and indefiniteness (Paragraph 8.I.), and that, even if the patent in suit were valid, respondent had not infringed the same.

After eleven days of trial and one day of oral argument, the District Court rendered a written opinion on December 10, 1964, holding that Claims 1, 6 and 7, of the patent in suit were invalid, and directing, among other things, that judgment be entered dismissing the complaint (PR. 5-31). Because, in the view of the District Court, the evidence compelled the conclusion that the claims in suit were invalid upon the grounds of inoperativeness and indefiniteness, which conclusion it considered dispositive of the action, that Court found no occasion to consider whether the patent was invalid upon any of the other grounds advanced by respondent, including prior knowledge and use, prior public use, and lack of invention (PR. 14), and also found it unnecessary to reach the questions raised as to infringement (PR. 13-14). Final judgment in accordance with the opinion was entered on December 18, 1964 (PR. 31-32).

On January 15, 1965, petitioners appealed to the Court of Appeals for the First Circuit from the judgment of the District Court entered on December 18, 1964 (PR. 33). In the Court of Appeals, petitioners sought a review not only of the issues which the District Court had decided, but also attempted to present to that Court for determina-

tion those issues in respect of validity and infringement which the District Court had neither decided nor considered. The Court of Appeals, however, affirmed the judgment of the District Court with a *per curiam* opinion rendered on October 29, 1965, upon which judgment was entered on the same date. The petition to this Court for a writ of certiorari followed.

At page 3 of their petition, referring to respondent's defense of indefiniteness under 35 U.S.C. § 112, petitioners state:

> "It was this last defense that seems to have been upheld by the District Court by its judgment (App. B 22) and opinion (App. B 24-50). No decision was made by the District Court as to the other alleged grounds of invalidity or on the issue of infringement."

It should be observed, however, that the District Court found that "the patent teaches results which are unobtainable" (PR. 22), and held that, "Under such circumstances, the patent and all of its claims are invalid for inoperativeness" under 35 U.S.C. § 101 (PR. 22-23). Nowhere in their petition do petitioners mention, let alone discuss, this finding and holding of the District Court.

Petitioners also state at page 7 of their petition:

> "More particularly, it is plain from the trial court's summary of the proven facts that there was no experimentation in the *practice* of the patented process, but only in the selection of the potatoes to be processed. It was the potato buyer and not the potato cook who did the experimenting."

It is submitted that nothing could be further from the truth. It is clear from the sentence in the petition which immediately precedes the quoted language (pp. 6-7) that petitioners have conveniently chosen to refer to only a small segment of the District Court's summary of the proven

facts (PR. 9-13). When the large and significant remainder of the District Court summary of the proven facts (PR. 17-22, 26-29) is considered, it becomes plain that the experimentation referred to by the District Court is in the *practice* of the process described in the patent, and not in the selection of the potatoes to be processed.

The opinion of the District Court constituting its findings and conclusions represents an unusually complete, meticulous and painstaking, consideration by the District Court of all of the evidence which was presented by each party at the trial on the several issues which that Court regarded as compelling a holding of invalidity apart from the other issues which were raised relative to validity and infringement. It is noteworthy that nowhere in the petition do petitioners contend that the District Court ignored any evidence or erroneously found any facts.

Petitioners, while thus paying lip service to the findings and asserting that they are challenging only the two lower courts' understanding of the applicable law (Petition, pp. 11-12), nevertheless proceed in their petition (pp. 10, 13-15) to attack the results which are clearly evident from Professor Ora Smith's experimental work, ignoring the admissions of their own expert, Saunders, to the same effect. The attack is thus, in effect, a challenge of the findings of fact which were made by the District Court after careful consideration of all of the evidence presented which was pertinent to the issues which that Court decided.

Thus, petitioners refer at page 14 of their petition to "treated potatoes of *different* original sugar content [having] the *same* color on frying after being subjected to the *same* treatment" as though it were a fact. This statement of alleged fact, as well as other similar statements in the petition (see, for example, pp. 3, 10, 13, 16), is directly contrary to the finding of the District Court that, as to whether the process described in the patent in suit

is effective to produce color uniformity in potatoes of varying sugar content,

> "Upon the record before it, the Court must conclude that it is not." (PR. 17)

## Summary of Argument

1. The question of "the manner in which the invention was made" (Petition, p. 10) has nothing to do with Question 1 as that question is set forth at page 2 of the petition. These are two separate and distinct questions. Both of these questions will be considered herein.

2. The question of "the manner in which the invention was made" has never been an issue in this case. Respondent has never challenged the validity of the patent in suit because of the manner in which the purported discovery thereof was made. The question of whether discoveries "made by accident or diligent trial and error are as patentable as those made by inspiration or intelligence" (Petition, p. 9) was not presented to either of the two courts below for determination, and neither of those courts even considered the question, either directly or indirectly. Indeed, respondent has never contended, in any of the proceedings heretofore had herein, that discoveries "made by accident or diligent trial and error" are not as patentable as those "made by inspiration or intelligence". Nor have petitioners ever asserted any applicability of the last sentence of 35 U.S.C. § 103 in any of the prior proceedings. Thus, at this late stage, petitioners have created an artificial issue, which was neither raised in nor decided or considered by either of the two courts below, and are endeavoring to present such issue to this Court for determination in the first instance. This is improper and an imposition on this Court.

3. Question 1, as set forth at page 2 of the petition, presupposes (1) that the patentee had made an "adaptation of an old process to a new use" and (2) that the patentee had made a "discovery of a new, useful and unpredictable result" in such adaptation. However, the District Court did not find either of these facts. On the contrary, the District Court specifically found that the process described and claimed in the patent in suit did not produce the result asserted for it by the means specified in the patent, i.e., that the use of a single sugar dip did not produce uniformity of color in potatoes of varying sugar content. The District Court therefore concluded that, "Under such circumstances, the patent and all of its claims are invalid for inoperativeness" under 35 U.S.C. § 101 (PR. 22-23). Thus, Question 1, which presupposes that the patentee had made a "discovery of a new, useful, and unpredictable result", not only assumes the existence of facts which were not found by the District Court, but, indeed, it assumes facts which are directly contrary to those actually found by the District Court. It is thus evident that petitioners, under the pretense of presenting a question of law for determination, are in reality challenging the findings of fact of the District Court. Question 1 has no factual foundation whatsoever in the record to give it any support, and, as presented by petitioners, is nothing more than an abstract hypothetical question, without any relation to the facts established by the evidence. Therefore, Question 1 is not a proper question for decision in this case.

4. When the rulings of the two courts below are considered in the light of the evidence and the facts found by the District Court, it becomes clear that, contrary to petitioners' contention, those courts not only understood the pertinent statute, i.e., 35 U.S.C. § 112, but that they correctly applied the statute to the found facts.

5. Although petitioners are ostensibly challenging only the understanding and application of 35 U.S.C. § 112 by the lower courts, it is again plain that in reality they are attacking the findings of fact which were made by the District Court after careful consideration of all of the evidence which was pertinent to this issue (PR. 17-22, 26-29). In this connection, Rule 52(a) of the Federal Rules of Civil Procedure provides that "[f]indings of fact shall not be set aside unless clearly erroneous". The Court of Appeals reviewed such evidence and found it sufficient to support the District Court's holding that Claims 1, 6 and 7, of the patent are invalid under 35 U.S.C. § 112, "because of the extent of experimentation required of one skilled in the art in order to ascertain their 'teaching' ". Simply stated, the quoted language from the *per curiam* opinion of the Court of Appeals means that, by reason of the finding of the District Court that at best no leaching occurs except possibly "with a .25% dextrose solution at the extreme limits of the patent claims" (PR. 21, 23-24) and the complete lack of any indication in the specification or claims of the special conditions under which any leaching might take place, there is total absence of the definiteness and teaching required by 35 U.S.C. § 112.

6. The patent in suit does not meet any of the requirements of Section 112. At best, petitioners' evidence shows only that leaching may occur only with a dextrose solution of .25% concentration, and even then only under certain special conditions. The specification of the patent does not teach that leaching may occur only with a .25% dextrose solution, and, further, does not disclose any such special conditions. Neither are the claims limited to a solution having a concentration of only .25%, but are directed to a wide range of concentrations. Consequently, such limitation and such special conditions would not be apparent to one skilled in the art, and could only be ascertained by the person attempting to use the process by experimentation.

The patent is also completely silent in respect of other important facts and leaves the determination thereof to further experimentation by others. The necessity for such experimentation invalidates the patent. Under such circumstances, the patent is invalid because the disclosure thereof is too vague and indefinite.

7. The claims do not specify that the solution is intended to perform any leaching (extracting) of sugar. However, even if the claims should be construed to provide for leaching, they are indefinite and misleading for the same reasons as the specification. None of the claims contains any limitation that leaching may occur only with a .25% dextrose solution, and even then only under certain special conditions, and, consequently, such limitation can only be determined by independent experimentation. Claims are invalid when they are vague and indefinite and compel experimentation by others in order to ascertain their bounds or limits.

8. The patent in suit does not contain a single example in which specific values and conditions are set forth as an illustration of "the best mode contemplated by the inventor of carrying out his invention", as required by 35 U.S.C. § 112. The patent is at best only an invitation to experiment.

9. In the prosecution of the application in the Patent Office, the patentee admitted that the prior art showed that it was old to leach sugar out of a potato by hot water blanching, but contended "that it is patentable invention to add sugar to potatoes to secure their desired color when cooked by frying" (D. Ex. 1, RR. 159). The documentary and deposition prior art relied upon by respondent here eliminates any basis for such a contention (D. Ex. 2, RR. 324-328, 329-348; D. Exs. 36-48, inclusive, PR. 443-456, RR. 429-494). Such prior art, none of which was cited or considered by the Patent Office, unequivocally shows

that the addition of sugar to potatoes to secure the desired color when cooked by frying was well known in the art long prior to the earliest date claimed by the patentee. Thus, the basis upon which the patentee's attorneys distinguished the prior art cited in the Patent Office is absent here, and the presumption of validity which attached to the grant of the patent is dissipated. Furthermore, Claims 1 and 6 (and dependent Claim 7) provide for the employment of "a solution of a sugar that may be *absorbed* by the particles", and, therefore, do not differentiate from the prior art practice of dipping potatoes in a sugar solution to add sugar and increase the color of the fried product (D. Exs. 36-48, inclusive, PR. 443-456, RR. 429-494).

10. Among the seven sugars which are specifically named in the specification as useful to produce the desired result are sucrose and raffinose (col. 3, ls. 53-56). However, the evidence conclusively demonstrated that sucrose and raffinose are inoperative to produce the desired result unless special measures, not taught by the patent, are taken. Not a hint of these special measures is contained in the specification, and they can only be determined by independent experimentation. As was shown by the evidence, both sucrose and raffinose are ineffective to produce the desired color change under the conditions specified in the patent. This renders invalid Claims 1 and 6, which, in the light of the specification defining suitable sugars (col. 3, ls. 53-56), specifically include sucrose and raffinose in the term "a sugar". Claims to the exclusive use of a class, some of the members of which are inoperative in achieving the inventive concept, are too broad and cannot be sustained. This well-established doctrine is but a special application of the requirement of 35 U.S.C. § 112 that the invention must be described so precisely as to enable any person skilled in the art to practice it without independent experimentation. The patentee has failed to teach the art how to use what he considers to be his invention without further experimentation.

11. The District Court carefully considered all of the evidence presented by both sides (PR. 17-22, 26-29) and concluded that Claims 1, 6 and 7, of the patent in suit are invalid under 35 U.S.C. § 112 because of the extent of experimentation required of one skilled in the art in order to ascertain the conditions, *if there be any,* under which the process could be made to produce the results asserted for it. Although the Court of Appeals, in affirming this holding of the District Court, did not state the reason for its affirmance in this particular language, it is clear from the evidence and the facts found by the District Court that this is the meaning and import of the language, "because of the extent of experimentation required of one skilled in the art in order to ascertain their 'teaching' ", of which petitioners complain. When petitioners' protestation that the ruling of the Court of Appeals "is not understood by petitioners" (Petition, p. 3) is considered in the light of the evidence and the facts found by the District Court, it becomes plain that such protestation is specious and entirely devoid of any substance.

12. Statements in respect of the purported commercial success of the "patented process" appear at pages 12, 14-15 and 16, of the petition. However, the record shows that the process described and claimed in the patent in suit was found not to be satisfactory at a very early date, at least by 1952 (PR. 19; D. Ex. 50, PR. 490-492, 494-497; D. Ex. 49, PR. 459-461, 466-467, 470), and that the present commercial processes of both petitioners[3] as well as respondent embody major deviations from the process originally unsatisfactorily employed by petitioner, H. C. Baxter & Bro., and from anything disclosed in the patent.

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[3] As the District Court found, since January, 1947, petitioner, H. C. Baxter & Bro., a partnership, has produced its frozen French fried potatoes through Snow Flake Canning Company, a corporation which is wholly owned by the partnership and the individual partners (PR. 10; RR. 6-8).

Such major deviations include the subjection of the raw potato strips to an initial plain hot water blanch before they are immersed in the hot dextrose solution (D. Ex. 49, PR. 466-468, 472, RR. 498-499; D. Ex. 49-E, RR. 500-505; D. Ex. 49-F, RR. 506-507; PR. 42; D. Ex. 50, PR. 499-500, RR. 509). Thus, the commercial history of the patent in suit lends no support to petitioners' statements as to the purported commercial success of the "patented process" but rather points in the opposite direction. Furthermore, other factors which are completely unrelated to the so-called "dextrose process" have contributed to the present importance and success of frozen French fried potatoes, such as, for example, the increasing availability of means for storing frozen foods.

13. An examination of the opinions of the two lower courts reveals that there is no merit whatsoever to petitioners' argument that "the courts below found the patent invalid because the *why* [of the process] seemed to have been stated incorrectly" (Petition, p. 15). It is plain from such opinions that *actuality, not theory or supposition,* was the basis for the decisions of the courts below.

## ARGUMENT

### POINT I

**The question of "the manner in which the invention was made" has never been an issue in this case.**

At page 10 of their petition, petitioners state that whether "a discovery so made [i.e., by accident] is patentable, if new, is essentially Question 1".

It is submitted at the outset that, contrary to petitioners' assertion, the question of "the manner in which the invention was made" (Petition, p. 10) has nothing to do with Question 1 as that question is set forth at page 2 of the

petition. These are two separate and distinct questions; and it is clear from an examination of pages 8-11 of the petition that petitioners have confused one with the other. In any event, both of these questions will be considered herein.

At page 10 of their petition, petitioners state:

> "No case in which 'the manner in which the invention was made' has been an issue has heretofore reached this Court."

Even if this be so, this would not be a reason for granting the petition, for "the manner in which the invention was made" has never been an issue in this case.

At no stage of the case has respondent ever challenged the validity of the patent in suit because of the manner in which the purported discovery thereof was made. The question of whether discoveries "made by accident or diligent trial and error are as patentable as those made by inspiration or intelligence" (Petition, p. 9) was not presented to either of the two courts below for determination, and neither of those courts even considered the question, either directly or indirectly. Indeed, respondent has never contended, in any of the proceedings heretofore had herein, that discoveries "made by accident or diligent trial and error" are not as patentable as those "made by inspiration or intelligence", and petitioners have never raised this point in any of the prior proceedings. Nor has any party heretofore in this case raised any issue involving the last sentence of 35 U.S.C. § 103 which petitioners quote at page 8 of their petition and upon which their argument is apparently based.

Thus, at this late stage, petitioners have created an artificial issue, neither raised in nor decided or considered by either of the two courts below, which they are endeavoring to present to this Court for adjudication in the first in-

stance, in order to increase the apparent attractiveness of the petition, in the hope that they might thereby gain an opportunity to litigate *de novo* all of the matters which were settled by the two decisions below and to challenge indirectly the findings of fact upon which those decisions were based. Petitioners' effort to present such artificial issue to this Court for determination in the first instance is improper and an imposition on this Court.

## POINT II

**Question 1 is without factual foundation in the record.**

Question 1, as set forth at page 2 of the petition, presupposes the existence of the following facts:

1. That the patentee had made an "adaptation of an old process to a new use"; and

2. That the patentee had made a "discovery of a new, useful, and unpredictable result" in such adaptation.

However, the District Court did not find either of these facts. On the contrary, in addition to the findings of fact which have been quoted at page 6, *supra*, to which the Court is respectfully referred at this point, the District Court found and held the following (PR. 22-23):

> "• • • Defendant's evidence, and plaintiff's own admissions, establish that these statements in the patent in respect of leaching sugar from the potato are simply untrue. Thus, the patent teaches results which are unobtainable.
>
> Under such circumstances, the patent and all of its claims are invalid for inoperativeness. A patent may be granted only on a new and 'useful' process, machine, manufacture, or composition of matter. 35 U.S.C. § 101."

As is plain from the findings of fact quoted at page 6, *supra,* and the foregoing, the District Court specifically found that the process described and claimed in the patent in suit did not produce the result asserted for it by the means specified in the patent, i.e., that the use of a single sugar dip did not produce uniformity of color in potatoes of varying sugar content. The evidence demonstrated that the process simply did not produce the "new and surprising result" which is described by petitioners at page 10 of their petition (see, *infra,* p. 20, fn. 4).

Thus, Question 1, which presupposes that the patentee had made a "discovery of a new, useful, and unpredictable result", is based upon an assumption of facts which are directly contrary to the findings actually made by the District Court on this issue. It is thus clear that petitioners, under the guise of presenting a question of law for determination, are in reality challenging the findings of fact of the District Court.

Moreover, there is no finding by the District Court that the patentee had made any "adaptation of an old process to a new use". To be sure, the patentee utilized an old process, but there was no adaptation of it to any "new use" because there is ample undisputed evidence that sugar solutions had been used long prior to 1945, the patentee's earliest claimed date, to obtain the desired color of potato strips upon French frying (D. Exs. 36-48, inclusive, PR. 443-456, RR. 429-494). Thus, the asserted adaptation to a "new use" necessarily refers to the asserted "new, useful, and unpredictable result", which the District Court found does not occur (PR. 17, 22-23).

The major premise of the patent is that immersing the potatoes in a sugar solution has an automatic combination effect of reducing the natural sugar content where it is high by leaching out sugar and supplementing the natural sugar

content where it is low by adding sugar (col. 2, ls. 16-23).[4] The specification of the patent is replete with similar statements (col. 3, ls. 36-40; col. 4, ls. 9-12, 17-21, 54-59). It was similarly presented in argument to the Patent Office (D. Ex. 1, RR. 149-150), and was apparently persuasive.

The word "leaching" as used in the patent means the extraction or removal of sugar. This was made clear at the trial by petitioners' expert, Saunders, who testified in respect thereof as follows (RR. 58):

> "Q. Well, leaching is taking out? A. Right."

That "leaching" means extraction or removal was also made clear in the reply brief which petitioners submitted to the Court of Appeals.

> "In the process described in the patent, the cold potato slices are heated by the hot solution and remain in the hot solution long enough to heat up the surface layers of the pieces and also to equalize the sugar content of the surface layers by *extracting* sugar from the pieces high in sugar and adding sugar to the pieces low in sugar. * * *" ("Reply Brief for Appellants", p. 21) [Emphasis supplied]

In the file history of the patent in the United States Patent Office (D. Ex. 1, RR. 131-165), both the Examiner and the patentee use "leaching" to mean extraction or removal of sugar. See, for example, the following language from the patentee's "Remarks" which accompanied the amendment filed July 5, 1949 (D. Ex. 1, RR. 159):

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[4] Petitioners were below (PR. 14) and are here in agreement that this is the critical concept of the patent. At page 10 of the petition it is stated by petitioners:

> "* * * the process would produce a new and surprising result—namely, that a dilute sugar solution bath may proyide a simultaneous treatment applicable to potato pieces of varying sugar content and hence of varying fry color so that upon simultaneous frying all the pieces will have substantially the same color."

> "Leaching a white potato must be done with hot water and if carried on for a sufficient length of time, a substantial percentage of the sugar can eventually be *taken out* even from the inside of a one-half inch cross section cut." [Emphasis supplied]

The patent teaches that in order to leach, the sugar solution must be hot (col. 4, ls. 6-12). However, it was shown by the evidence that no leaching takes place when the sugar solution is at a temperature of about 140° F. and higher under a broad range of concentrations and immersion times within those specified in the claims. The evidence which was presented by both sides on the issue of whether leaching would occur under the conditions taught by the patent was discussed extensively by the District Court in accurate and minute detail in its opinion (PR. 17-22). The District Court found that the statements in the patent in respect of leaching sugar from a potato, when considered in the light of the evidence, "are simply untrue" (PR. 22).

The District Court carefully considered all of the evidence which was presented by petitioners at the trial in support of the proposition that a hot sugar solution would leach natural sugars from potato strips to effect equalization of the sugar in the surface cells of the strips, which petitioners contended below and contend here occurs, and found such evidence unconvincing and insufficient to substantiate the proposition for which it was offered (PR. 20-21). The District Court's exact finding is as follows (PR. 21):

> "Thus, by plaintiffs' own admissions no leaching is obtained using a dextrose solution at .5% and higher. At best plaintiffs' evidence shows that leaching occurs only with a .25% dextrose solution at the extreme limits of the patent claims, and even then plaintiffs have adduced no evidence that a solution having the minimum sugar content under these conditions is effective simultaneously to add sugar to low sugar content pota-

toes and to produce the equalizing effect which the patent claims.[17] ''

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"[17] Saunders testified that it was 'questionable' that a .25% dextrose blanch would be effective to increase the sugar content of medium low potatoes so as to achieve uniformity in a batch of medium low, medium and medium high potatoes."

Consequently, the situation herein is one in which the District Court carefully considered all of the evidence which was presented by both sides (PR. 17-22) and found as a fact that the use of a single sugar dip did not produce uniformity of color in potatoes of varying sugar content

> ''because the process described in the patent does not effect leaching at all, or at least over substantially the entire range of concentrations and immersion times specified in the claims.'' (PR. 17)

Thus, the specification of the patent asserts and teaches effects and results which cannot be obtained. Its false assertions completely mislead those who refer to it. Under such circumstances, as the District Court held, ''the patent and all of its claims are invalid for inoperativeness'' under 35 U.S.C. § 101.

The alleged ''new, useful, and unpredictable result'', which is postulated in and forms the core of Question 1, has been found by the District Court to be non-existent (PR. 17). Thus, Question 1 not only assumes the existence of facts which were not found by the District Court, but, indeed, it assumes facts which are directly contrary to those actually found by the District Court. The question has no factual foundation whatsoever in the record to give it any support. As presented by petitioners, Question 1 is nothing more than an abstract hypothetical question, without any relation to the facts established by the evidence, and indirectly an attempted challenge to the findings of fact of the District Court. Therefore, it is not a proper question for decision in this case.

## POINT III

**The Court of Appeals correctly concluded that the evidence supported the District Court's holding that Claims 1, 6 and 7, of the patent in suit are invalid under 35 U.S.C. § 112, because of the extent of experimentation required of one skilled in the art in order to ascertain their "teaching".**

Petitioners contend at page 11 of their petition that the opinions below reflect a "confusion and misunderstanding of the statute" on the part of both of the lower courts. It is submitted, however, that, when the rulings of the lower courts are considered in the light of the evidence and the facts found by the District Court, it becomes clear that the lower courts not only understood the pertinent statute, i.e., 35 U.S.C. § 112, but that they correctly applied the statute to the found facts.

Furthermore, although petitioners are ostensibly challenging only the understanding and application of the pertinent law by the lower courts, it is again plain from pages 10 and 13-15 of their petition that in reality they are attacking the findings of fact which were made by the District Court after careful consideration of all of the evidence which was pertinent to this issue.[5]

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[5] Rule 52(a) of the Federal Rules of Civil Procedure provides in pertinent part as follows:

> "(a) *Effect.* * * * Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses. * * *"

To the same effect, see *A. Belanger & Sons, Inc.* v. *United States of America, Etc.*, 275 F. 2d 372, 375, 376 (1 Cir., 1960), *D'Orsay Equipment Co., Inc.* v. *United States Rubber Company*, 302 F. 2d 777, 778 (1 Cir., 1962), and *Evans, Etc., et al.* v. *United States of America*, 319 F. 2d 751, 753, 755-756 (1 Cir., 1963).

The evidence which was considered by the District Court was discussed by it at appreciable length in its opinion (PR. 17-22, 26-29). The Court of Appeals reviewed such evidence and found it sufficient to support the District Court's holding that Claims 1, 6 and 7, of the patent are invalid under 35 U.S.C. § 112, "because of the extent of experimentation required of one skilled in the art in order to ascertain their 'teaching' ". Simply stated, the quoted language from the *per curiam* opinion of the Court of Appeals means that, by reason of the finding of the District Court that at best no leaching occurs except possibly "with a .25% dextrose solution at the extreme limits of the patent claims" (PR. 21) (see, *supra*, pp. 21-22) and the complete lack of any indication in the specification or claims of the special conditions under which any leaching might take place, there is total absence of the definiteness and teaching required by 35 U.S.C. § 112.

The opinion of the District Court clearly supports this conclusion. The District Court found and held as follows:

> "Even accepting plaintiffs' evidence that leaching may occur with a .25% dextrose solution at the maximum temperature and time of immersion specified in the patent claims, neither the patent specifications nor the claims disclose any such limitation; as a result, a person attempting to use the process could only ascertain the limitation by experimentation. The law is clear that the necessity for such experimentation invalidates the patent * * *. [PR. 23-24]
>
> * * *
>
> Consequently, even if plaintiffs' evidence is given the maximum credence to which it is entitled, the claims in suit are invalid because the disclosure of the patent is too vague and indefinite to meet the statutory requirement of precision in describing the alleged invention. [PR. 25]"

It is submitted that, when petitioners' protestation that the ruling of the Court of Appeals "is not understood by petitioners" (Petition, p. 3) is considered in the light of the evidence and the facts found by the District Court, it becomes plain that such protestation is specious and entirely devoid of any substance.

As held by the District Court and affirmed by the Court of Appeals, the patent in suit does not meet the requirements of Section 112. As the District Court found, petitioners' evidence at best shows only that leaching may occur only with a dextrose solution of .25% concentration, and even then only under certain special conditions (PR. 21, 23-24). The specification of the patent does not teach that leaching may occur only with a .25% dextrose solution, and, further, does not disclose any such special conditions. Indeed, the claims are not limited to a solution having a concentration of only .25% but are directed to a wide range of concentrations. Consequently, such limitation and such special conditions would not be apparent to one skilled in the art, and long experimentation and research would be required on the part of the person attempting to use the process in order to determine whether in some obscure corner of the patent the process could be made to produce the results asserted for it.

At page 11 of their petition, petitioners state:

> "But the 'limitation' referred to is *not* as a matter of law or logic, necessary, or said to be necessary, to be observed in the practice of the process as described in the patent or as practiced by the defendant."

It is difficult to comprehend how petitioners can make such a statement in the light of the evidence and the facts found by the District Court, and necessarily sustained by the Court of Appeals, which indicate the absolute necessity of observing such limitation if the process described in the patent is to have any chance of producing the results asserted for it. As the evidence demonstrated, and as the

District Court found, petitioners' evidence shows at best only that leaching may occur only with a .25% dextrose solution, and even then only at the maximum temperature and the maximum time of immersion specified in the claims (PR. 21, 23-24). Therefore, unless such limitation and such special conditions were observed in the practice of the process described in the patent, leaching of sugar would not occur, and, consequently, the process would not produce the result asserted for it, i.e., uniformity of color in potatoes of varying sugar content would not be achieved.

On the contrary, there is no necessity for observing such limitation in the practice of the process employed by respondent for the reason that, in respondent's process, the raw potato strips are initially blanched in two blanchers which contain plain hot water before they are immersed in the hot dextrose solution (P. Ex. 8, PR. 338). This initial hot water blanch has the effect of leaching sugar and hence accomplishing a lightening of the color of the fried potato strips (D. Ex. 1, RR. 159). The process described in the patent does not include such an initial hot water blanching step.

Furthermore, although the description of the patent refers to low sugar content and high sugar content potatoes (col. 1, ls. 12 and 21-22), there is nothing in the patent which specifies what constitutes a low sugar content or a high sugar content (RR. 22-23). Neither is there anything in the patent which indicates when "the sugar content of a potato is too high to be corrected by leaching" (col. 3, ls. 36-38) (RR. 27) or when it is capable of being corrected by leaching (col. 2, ls. 10-11). The patentee Baxter admitted, moreover, that there is nothing in the patent which teaches how any of these values may be determined, other than by experimentation (RR. 22-26, 27-28).

In addition, at column 1, lines 37-39, the patent states:

> "A control of the sugar content also inhibits rancidity in the fried products."

As testified by Professor Smith, this statement is meaningless, since there is no explanation of the manner in which the sugar content is to be adjusted (PR. 156-157). There is no indication, for example, of the point at which the sugar content would inhibit rancidity, or whether the sugar content should be increased or decreased in order to inhibit rancidity (PR. 157). The patent is completely silent in respect of these important facts and leaves the determination thereof to further experimentation by others.[6]

The necessity for all of the experimentation which is discussed above invalidates the patent. The law is well settled that, under such circumstances, the patent is invalid because the disclosure thereof is too vague and indefinite. *Wood* v. *Underhill et al.*, 46 U. S. 1, 4-5 (1847); *Tyler* v. *Boston*, 74 U. S. 327, 330 (1868); *The Incandescent Lamp Patent*, 159 U. S. 465, 474-475 (1895); *Beidler* v. *United States*, 253 U. S. 447, 453 (1920); *Permutit Co.* v. *Graver Corp.*, 284 U. S. 52, 60 (1931); *Standard Brands, Inc.* v. *National Grain Yeast Corp.*, 308 U. S. 34, 38 (1939).

None of the patent claims contains any limitation as to the temperature of the solution, although the teaching of the patent is that a hot solution is required if there is to be any leaching action (col. 4, ls. 6-12).[7]

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[6] In a letter, dated July 10, 1946, from John L. Baxter, Jr., to Abbott Spear, the attorney who prepared the patent application, Baxter, Jr., stated that the idea that "the sugar dip tends to inhibit rancidity" was suggested by Dr. Albert A. Schaal of Lever Brothers (D. Ex. 31, RR. 423-425). Petitioners' expert, Saunders, confirmed that the idea came from Dr. Schaal and admitted that he, Saunders, "did not know anything about nor did [he] have any experimental evidence that dipping in dextrose would retard rancidity" (RR. 77-79).

[7] Indeed, the experiments relied upon by petitioners in their unsuccessful attempt to demonstrate that sugar may be leached from the potatoes were all conducted with sugar solutions which had been heated to very high temperatures, namely, 190° F. and 212° F. (P. Exs. 29 and 36; PR. 384, 388, 265-268, 278-282).

Furthermore, the patentee Baxter admitted, in response to questions by the District Court, at least with respect to Claim 6, that "the claim is rather poorly written" (RR. 33-34), "that there was possibly a fault in the claim" (RR. 34), and that "perhaps the claim should have pointed out that the solution is a boiling solution" (RR. 34-35). In this connection, the following language from *Application of Thomson*, 315 F. 2d 919 (C.C.P.A., 1963), is particularly pertinent (p. 922):

> "* * * A particular feature upon which an applicant predicates patentability must be recited in the claims; it is not sufficient merely to disclose it in the specification. In re Lindberg, 194 F. 2d 732, 39 CCPA 866."

To the same effect are *Seyfarth* v. *Coe*, 129 F. 2d 58, 61 (D. C. Cir., 1942), and *In re Laurent*, 186 F. 2d 741, 743 (C.C.P.A., 1951).

Moreover, Claim 6 (and dependent Claim 7) is limited to the treatment of potatoes "the natural sugar content of which is *too low* to enable the desired color change to be attained when the particles are cooked by frying" and provides for the employment of "a solution of a sugar that may be *absorbed* by the particles". Although Claim 1 may be considered to be somewhat broader than Claim 6, nevertheless, it also similarly specifies "a solution of a sugar that may be *absorbed* by the particles". Accordingly, the claims do not specify that the solution is intended to perform any leaching.

However, even if the claims should be construed to provide for leaching, they are indefinite and misleading for the same reasons as the specification. As has been pointed out above, even if petitioners' evidence were to be given the maximum credence to which it could possibly be entitled, it would still show only that leaching may occur only with a .25% dextrose solution, and even then only under certain special conditions. None of the claims con-

tains any such limitation, and, consequently, such limitation can only be determined by independent experimentation.

Claims are invalid when, as is the case here, they are vague and indefinite and compel experimentation by others in order to ascertain their bounds or limits. *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U. S. 364, 368-369 (1938); *United Carbon Co.* v. *Binney Co.*, 317 U. S. 228, 234-237 (1942); *Standard Oil Co.* v. *Tide Water Associated Oil Co.*, 154 F. 2d 579, 582-583 (3 Cir., 1946); *Parker Appliance Co.* v. *Irvin W. Masters, Inc.*, 94 F. Supp. 72, 73-74 (S. D. Cal., 1950); *Merrill* v. *Builders Ornamental Iron Co.*, 197 F. 2d 16, 24 (10 Cir., 1952).

The patent in suit is remarkable in that it deals with the sugar concentration, the temperature of the solution and the period of immersion, only in generalities or ranges, and does not contain a single example in which specific values and conditions are set forth as an illustration of "the best mode contemplated by the inventor of carrying out his invention", as required by 35 U.S.C. § 112. At best, the patent is but an invitation to experiment.

At page 12 of their petition, petitioners state:

> "It is clear from the evidence and the opinion of the District Court that no experimentation whatsoever was required or practiced in producing the several billion pounds of frozen French fried potatoes that have been produced by the patented process since the complaint in the first suit against General Foods was filed in 1961."

This statement is inaccurate and misleading. As the evidence demonstrates, and as the District Court found,

> "In 1952 both Baxter and General Foods modified the original Baxter manufacturing process by the addition of a hot water blanching step in advance of the

hot dextrose dip * * *. * * * Baxter and General Foods have used the modified process, essentially without change, continuously since 1952." (PR. 12)

As has been shown above, the process employed by respondent since October, 1962, when its plant at Fort Fairfield, Maine, began commercial production, has always included two plain hot water blanches prior to the hot dextrose dip (P. Ex. 8, PR. 338). This initial hot water blanching step, which is included in the processes employed by both petitioners and by respondent, is not included in the process which is described in the patent in suit. Thus, contrary to the statement made by petitioners, the frozen French fried potatoes which have been produced by petitioners themselves and by respondent since 1961 have not been produced by the "patented process", but by processes which embody a major deviation from the process described in the patent. There is no evidence whatsoever in the record as to the details of the processes employed by any others who may have used a sugar solution in the production of frozen French fried potatoes since 1961.

At page 13 of their petition, petitioners state:

"* * * In selecting the potatoes to be purchased and processed, a 'fry test,' fully described in the patent in suit and in the District Court's opinion (App. B 30) is used. Only those lots of potatoes are purchased in which the highest sugar content of any tested potatoes is not excessive and the difference between the highest and lowest sugar content is not over four of the seven classifications, *viz.*, 'very low, low, medium low, medium, medium high, high, and very high,' in which the test fried potatoes are classified. * * *"

The "fry test" does not relate to or cure the vice which the two courts below found to exist in the process described in the patent. Furthermore, as in the case of the tem-

perature of the solution, the "fry test" is not an element of any of the claims, and, therefore, petitioners cannot rely upon such feature for patentability. *Application of Thomson, supra; Seyfarth* v. *Coe, supra; In re Laurent, supra.* As this Court stated in *McClain* v. *Ortmayer,* 141 U. S. 419 (1891), at pages 423-424:

> "* * * Nothing is better settled in the law of patents than that the patentee may claim the whole or only a part of his invention, and that if he only describe and claim a part, he is presumed to have abandoned the residue to the public. * * *"

Moreover, the statement of petitioners which has been quoted above is incomplete and misleading, since petitioners have failed to point out that the classification system described therein is used only by petitioners and not by respondent. The handwritten numbers ranging from 0 to 4 on the color chart which is attached as "Exhibit A" to the stipulation describing respondent's process (P. Ex. 8, RR. 342) indicate that respondent grades potatoes for sugar content into *eight* classifications by means of its fry test, namely, 0, ½, 1, 1½, 2, 2½, 3 and 4. In addition, the stipulation provides in pertinent part as follows (P. Ex. 8, RR. 336):

> "* * * The desired standard for color acceptability requires all fried strips to fall in the range of from 0 to 3½ on the color chart, but a color as high as 4 in not more than 10% of the fried strips may be accepted."

Gibson, manager of respondent's fresh and frozen potato operations in Maine (PR. 103-106), testified that "we must be within this zero to 3½ range" (PR. 143) and also as follows (PR. 144):

> "The Court: And on your fry test you would consider acceptable any potatoes which fell as to color

within the range from zero, which is practically white as I view it, to 3½, is that correct?

The Witness: That is correct."

Thus, respondent uses potatoes which fall into at least *seven* of the aforesaid *eight* groups, and not only four out of seven groups as utilized by petitioners.

At page 14 of their petition, petitioners state:

> "* * * until Dr. Smith's testimony in this case, it was apparently the belief of all parties to the litigation, including the General Foods personnel, that when a batch of potatoes of mixed high and low sugar content (Pat. Col. 4, lines 35-36) was dipped in a hot sugar solution of medium concentration, the resulting color of the dipped potato was, on frying, the color that the potatoes of medium sugar content would have had, if fried without dipping. * * *"

This statement is completely contrary to the facts shown by the evidence and found by the District Court, for this clearly was *not* "the belief of all parties to the litigation, including the General Foods personnel". Dr. Kenneth G. Dykstra, a research manager who joined General Foods in 1943 and who was laboratory manager of the Albion Laboratories of the Birds Eye Division of General Foods for the period of about 1947 to 1958 (D. Ex. 50, PR. 481-483), had visited the Snow Flake Canning Company (petitioner, H. C. Baxter & Bro.) plant in Corinna, Maine, sometime in 1947 and again in December, 1948, and had become familiar with and understood the single sugar dip process as it was practiced by the Baxter group at that time (D. Ex. 50, PR. 486-495). Dr. Dykstra testified that the single sugar dip process did not produce satisfactory results with potatoes which had "either a high or a variable sugar content", i.e., that it was not effective either to reduce color or to produce uniformity of color (D. Ex. 50, PR. 490-492, 494-497). He further testified that for

this reason they could not put through the single sugar dip process potatoes which had not been conditioned or stored in such a way that they had a low sugar level (D. Ex. 50, PR. 490-491), and that it was necessary to store the potatoes at a temperature of "70 or something like that, to burn these sugars down to an acceptable level", before they could be put through the single sugar dip process (D. Ex. 50, PR. 491-492). The testimony of George W. Raye, an engineer employed by General Foods since January, 1931 (D. Ex. 49, PR. 456-458), is to the same effect (D. Ex. 49, PR. 459-461, 466-467, 470). The District Court adopted the testimony of both of these witnesses (PR. 19). In the light of these facts, shown by the evidence and found by the District Court, the aforesaid statement of petitioners is plainly incorrect and unjustifiable.

At page 14 of their petition, petitioners also state that, at the time the application for the patent was prepared, the patentee and his attorney

> "believed that on dipping the potatoes in the sugar solution the solution *replaced* some of the potato juice with a resulting reduction of the sugar content of the juice of the potatoes of high sugar content and an increase of the sugar content of the low sugar potatoes, all as stated in the patent."

If, indeed, it was the belief of the patentee and his attorney at that time "that on dipping the potatoes in the sugar solution the solution *replaced* some of the potato juice", such a belief is nowhere reflected. There is nothing in the record which manifests such a belief on their part. The application for the patent (D. Ex. 1, RR. 133-144) did not speak of a *replacement* of some of the potato juice by the sugar solution, but, instead, proclaimed that the asserted result, i.e., uniformity of color in potatoes of varying sugar content, was achieved by the sugar solution's purported combination effect of *leaching* (extracting)

sugar from potatoes of high sugar content and adding sugar to potatoes of low sugar content. Similarly, in arguments which the patentee and his attorney presented to the Patent Office during the prosecuion of the application (D. Ex. 1, RR. 149-150, 153-154, 159-160), they made no reference whatsoever to any *replacement* of any of the potato juice by the sugar solution, but, instead, they explained that uniformity of color in potatoes of varying sugar content was obtained by the purported combination effect of the sugar solution in *leaching* (extracting) sugar from high sugar potatoes and adding sugar to low sugar potatoes (D. Ex. 1, RR. 149-150). Thus, as in the case of many other statements in the petition, petitioners' statement that, at the time the patent application was prepared, the patentee and his attorney "believed that on dipping the potatoes in the sugar solution the solution *replaced* some of the potato juice", is not supported by anything in the record and entirely without foundation.

In arguing during the prosecution of the patent application in the Patent Office, the patentee admitted that the prior art showed that it was old to leach sugar out of a potato by hot water blanching, but contended:

> "it is submitted that it is patentable invention to add sugar to potatoes to secure their desired color when cooked by frying." (D. Ex. 1, RR. 159; "Remarks" accompanying amendment filed July 5, 1949)

The prior art relied upon by respondent here eliminates any basis for such a contention. Documentary prior art not found by the Examiner shows that sugar content, and, more particularly, reducing sugar content, was known to be the important factor in the browning of French fried potatoes [see, for example, *Peacock,* United States Department of Agriculture Circular No. 158, March, 1931 (D. Ex. 2, RR. 324-328), and *Wright et al.,* United States Department of Agriculture Technical Bulletin No. 507, February, 1936 (D. Ex. 2, RR. 329-348)]. Depositions in evidence in

this case show in addition that long prior to 1945, the patentee's earliest asserted date, it was common knowledge in this country among chefs and produce men supplying potatoes for French frying that, when the natural sugar content of the potatoes was such that the desired browning could not be obtained upon frying, such desired browning could be attained by soaking the potato strips in a solution of sugar or glucose (dextrose) for a period of several hours or overnight (D. Exs. 36-48, inclusive, PR. 443-456, RR. 429-494). This documentary and deposition prior art is discussed in the opinion of the District Court (PR. 15-16).

In short, the prior art relied upon by respondent here, none of which was cited or considered by the Patent Office, unequivocally shows that the addition of sugar to potatoes to secure the desired color when cooked by frying was well known in the art long prior to the earliest date claimed by the patentee. Thus, the basis upon which the patentee's attorneys distinguished the prior art cited in the Patent Office is absent here, and the presumption of validity which attached to the grant of the patent is dissipated. *Royal Patent Corp.* v. *Monarch Tool & Mfg. Co.*, 203 F. 2d 299, 300 (6 Cir., 1953); *Zoomar, Inc.* v. *Paillard Products, Inc.*, 258 F. 2d 527, 530 (2 Cir., 1958); *Senco Products, Inc.* v. *Fastener Corporation*, 269 F. 2d 33, 34 (7 Cir., 1959); *Jaybee Mfg. Corp.* v. *Ajax Hardware Mfg. Corp.*, 287 F. 2d 228, 229 (9 Cir., 1961).

Furthermore, as was pointed out at page 28, *supra*, Claims 1 and 6 (and dependent Claim 7) provide for the employment of "a solution of a sugar that may be *absorbed* by the particles", and, accordingly, do not specify that the solution is intended to perform any leaching. Therefore, the claims do not differentiate from the prior art practice of dipping potatoes in a sugar solution to add sugar and increase the color of the fried product (D. Exs. 36-48, inclusive, PR. 443-456, RR. 429-494).

At page 14 of their petition, petitioners also set forth what purports to be a summary of a portion of Professor Smith's testimony. Petitioners state in part as follows:

> "* * * Dr. Smith said that the sugar solution taken up by the treated potatoes is not substituted for a like quantity of potato juice, but is *added* to the potato juice so that on frying the resulting uniform color of all of the treated potatoes would be the same as the color of potatoes of high sugar content and not potatoes of medium sugar content."

This statement is a complete distortion of Professor Smith's testimony. At no time did Professor Smith state, or even imply, that "all of the [sugar] treated potatoes" would have a "resulting uniform color" upon frying, let alone that such color "would be the same as the color of potatoes of high sugar content and not potatoes of medium sugar content". Indeed, his testimony was exactly the opposite (PR. 165-169, 171-177). Professor Smith's testimony on this issue, and the results of his supporting experimental work, were considered by the District Court and summarized in its opinion (PR. 17-19). As Professor Smith testified, and as the District Court found, the use of a single sugar dip does not produce uniformity of color in potatoes of varying sugar content, for the reason that one-half of the purported combination effect described in the patent, namely, the leaching (extraction) of sugar from potatoes of high sugar content, does not occur with a sugar solution at a temperature of about 140°F. and higher under a broad range of concentrations and immersion times within those specified in the claims (PR. 17-19, 165-169, 171-177). In addition to the testimony quoted by the District Court in its opinion (PR. 17-18), the following excerpt from the colloquy between Professor Smith and that Court also aptly summarizes Professor Smith's conclusions (PR. 174-175):

> "The Court: Regardless of the temperature, or let's say if the liquid were at any temperature be-

tween just about freezing and its boiling point.

The Witness: No, it would have to be high enough temperature for the gelatinization of the starch.

The Court: And that is approximately what?

The Witness: Potato starch about 140°F.

• • •

The Court: • • •

Now, do I understand correctly that it is your opinion that immersion in a dextrose solution of raw potatoes does have the effect of increasing the sugar content of low sugar content potatoes but does not have the effect of decreasing the sugar content of high sugar content potatoes?

The Witness: Yes, that is essentially what I was saying.

• • •

The Court: You say that specifically with respect to a dextrose solution within the range of ¼ of 1% to 3%?

The Witness: Yes."

In the light of Professor Smith's testimony and conclusions, accepted by the District Court, it is clear that petitioner's above-quoted statement regarding them is a complete distortion.

At pages 14-15 of their petition, petitioners purport to describe the "commercial operations" of "the parties to this suit" in the preparation of French fried potatoes. However, the description which is set forth is inaccurate and incomplete, since it omits any mention of the initial hot water blanching step, in advance of the hot dextrose dip, which is included in the commercial processes employed by both petitioners and by respondent.

The District Court further found and held as follows:

"Claims 1 and 6 must also be declared invalid because the patent includes within its disclosure sugars

which the evidence shows are inoperative to produce the desired result. Among the sugars specifically mentioned in the specifications as useful are sucrose and raffinose. (Pat. Col. 3, lines 53-56). * * * [PR. 26]

* * *

* * * But defendant's evidence establishes that sucrose and raffinose are inoperative to produce the desired color change under the conditions specified in the patent. Claims 1 and 6 are therefore fatally defective under the established doctrine that claims to the exclusive use of a class, some of the members of which are inoperative in carrying out the patented process, are too broad and cannot be sustained. * * * [PR. 29]"

This finding and holding of the District Court, which is not mentioned by petitioners anywhere in their petition, is a further ground upon which Claims 1 and 6 are invalid. The evidence which the District Court considered in reaching this conclusion was discussed by it in detail in its opinon (PR. 26-29). It is more than ample to support the findings which that Court made on this issue.

Sucrose and raffinose are among the seven sugars which are specifically named in the specification as useful to produce the desired result (col. 3, ls. 53-56). However, the evidence discussed by the District Court conclusively demonstrated that sucrose and raffinose are inoperative to produce the desired result unless special measures, not taught by the patent, are taken. As Professor Smith testified, and as the District Court found, a sucrose dip may be effective to achieve the desired color change, but only under special conditions, not described or recognized in the patent, which may give a brown color as the result of hydrolysis or caramelization of the sucrose (PR. 27, 160-164, 231-232).

Not a hint of these special conditions is contained in the specification, and they can only be determined by independent experimentation. The specification simply does not teach how to succeed with sucrose or raffinose. As was shown by the evidence, both of these sugars are ineffective to produce the desired color change under the conditions specified in the patent. As the District Court correctly concluded, this renders invalid Claims 1 and 6, which, in the light of the specification defining suitable sugars (col. 3, ls. 53-56), specifically include sucrose and raffinose in the term "a sugar".

Claims to the exclusive use of a class, some of the members of which are inoperative in achieving the inventive concept, are too broad and cannot be sustained. *The Incandescent Lamp Patent, supra; Corona Co.* v. *Dovan Corp.*, 276 U. S. 358, 385 (1928); *Kalle & Co. et al.* v. *Multazo Co., Inc.*, 109 F. 2d 321, 325 (6 Cir., 1940); *American Chemical Paint Co.* v. *Firestone Steel Prod. Co.*, 117 F. 2d 927, 929-930 (6 Cir., 1941); *Libbey-Owens-Ford Glass Co.* v. *Celanese Corporation of America*, 135 F. 2d 138, 144, 145-146 (6 Cir., 1943); *Graver Mfg. Co.* v. *Linde Co.*, 336 U. S. 271, 277 (1949); *Patrol Valve Co.* v. *Robertshaw-Fulton Controls Co.*, 210 F. 2d 146, 151-152 (6 Cir., 1954); *Pemco Products, Inc.* v. *General Mills, Inc.*, 261 F. 2d 302, 304 (6 Cir., 1958). As the District Court observed, this well-established doctrine is but a special application of the requirement of 35 U.S.C. § 112 that the invention must be described so precisely as to enable any person skilled in the art to practice it without independent experimentation (PR. 29).

Furthermore, the vice of inoperativeness as to particular sugars goes far beyond the claims which specifically include these inoperative sugars. By including two inoperative sugars among seven specifically disclosed as being suit-

able (col. 3, ls. 53-56),[8] the patentee has so misled and confused the art that the entire patent becomes invalid because its specification is not a proper basis for the allowance of any claims. Thus, the failure to describe the purported invention in such full, clear, concise and exact terms as to enable one skilled in the art to avoid such inoperativeness and use the same, as required by 35 U.S.C. § 112, affects the entire patent and invalidates each of the claims. See *Tyler* v. *Boston, supra; Matheson* v. *Campbell,* 78 Fed. 910, 923 (2 Cir., 1897); and *Standard Brands, Inc.* v. *National Grain Yeast Corp., supra.* That the two inoperative sugars can be made to operate under certain special conditions which are not disclosed or taught by the patent does not in any way relieve the patent from this fatal defect. The fact remains that the patentee has failed to teach the art how to use what he considers to be his invention without further experimentation.

Thus, the District Court carefully considered all of the evidence presented by both sides which was pertinent to the issues which it decided (PR. 17-22, 26-29) and concluded that Claims 1, 6 and 7, of the patent in suit are invalid under 35 U.S.C. § 112 because of the extent of experimentation required of one skilled in the art in order to ascertain the conditions, *if there be any,* under which the process could be made to produce the results asserted for it. Although the Court of Appeals, in affirming this holding of the District Court, did not state the reason for its affirmance in this particular language, it is clear from the evi-

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[8] Actually, the patentee has included *four* inoperative sugars among the seven specifically disclosed as being suitable. Professor Smith's tests show that two other specifically mentioned sugars, maltose and lactose, and one generally included sugar, melibiose, do not produce browning (D. Ex. 12, p. 37, PR. 434; PR. 210, 231-232; D. Ex. 12, p. 35, PR. 432; PR. 208-209).

dence and the facts found by the District Court that this is the meaning and import of the language,

> "because of the extent of experimentation required of one skilled in the art in order to ascertain their 'teaching'",

of which petitioners complain. Petitioners' protestation that the ruling of the Court of Appeals "is not understood by petitioners" (Petition, p. 3) is entirely lacking in merit when considered in the light of the evidence and the facts found by the District Court.

At page 16 of their petition, petitioners state:

> "We further believe that the astounding extent of the allegedly infringing use of the patented process in these last years of the patent term also justifies this Court in granting this petition * * *."

Other statements in respect of the purported commercial success of the "patented process" appear at pages 12 and 14-15 of the petition.

This ignores the fact that there has been no ruling on the question of whether the process practiced by respondent infringes any of the claims in suit. As has been pointed out at pages 32-33, *supra*, the record shows that the process described and claimed in the patent in suit was found not to be satisfactory at a very early date, at least by 1952 (PR. 19; D. Ex. 50, PR. 490-492, 494-497; D. Ex. 49, PR. 459-461, 466-467, 470), and that the present commercial processes of petitioners as well as respondent embody major deviations from the process originally unsatisfactorily employed by petitioner, H. C. Baxter & Bro., and from anything disclosed in the patent. Under these circumstances, it is presumptuous and completely speculative to assume infringement.

As the evidence shows, after constructing its own plant in Caribou, Maine, first using only a single blancher containing dextrose solution (D. Ex. 49, PR. 466), petitioner, General Foods Corporation, altered the process by introducing an initial hot water blancher followed by a wash ahead of the sugar blancher (D. Ex. 49, PR. 466-467; D. Ex. 50, PR. 499-500), and this two-blancher process was in operation at the Caribou plant of General Foods before January 23, 1952 (D. Ex. 49, PR. 468). The function of the initial hot water blancher was to leach out the sugar and the function of the sugar blancher was to bring it up to the desired level (D. Ex. 49, PR. 468-469; D. Ex. 50, PR. 499-500). This alteration was revealed to the patentee (D. Ex. 49, PR. 472; RR. 498-499; D. Ex. 49-E, RR. 500-505; D. Ex. 50, RR. 509), and thereafter adopted by petitioner, H. C. Baxter & Bro. (D. Ex. 49, RR. 499; D. Ex. 49-F, RR. 506-507; PR. 42). As the District Court found, both petitioners have used the altered process, essentially without change, continuously since 1952 (PR. 12).

As is set forth in the stipulation (P. Ex. 8, PR. 338), respondent's process employs two hot water blanchers before the "S"-shaped flume through which the dextrose solution is made to flow, neither of which is disclosed in the patent in suit. In its normal practice, respondent does not rely upon the dextrose dip to adjust the sugar content of the potatoes or to produce uniformity of color, but uses the dextrose solution in order to restore the natural sugars which have been leached out of the potatoes in the two hot water blanchers (PR. 138-139).

Thus, the commercial history of the patent in suit lends no support to petitioners' statements as to the purported commercial success of the "patented process" but rather points in the opposite direction. Furthermore, other factors which are completely unrelated to the so-called "dex-

trose process" have contributed to the present importance and success of frozen French fried potatoes, such as, for example, the increasing availability of means for storing frozen foods. As Professor Smith testified, in 1945, following World War II, the frozen food industry was in its infancy and there were very few home freezers for the holding of frozen foods in individual homes (PR. 212).

Throughout their petition, petitioners endeavor to offer an explanation of what purportedly occurs when potato strips are immersed in a hot dextrose solution (see, for example, pp. 10, 13, 14, 15). However, the explanation offered by petitioners is a theoretical dissertation which bears no relation whatsoever to the evidence in the record. It is merely a hypothetical discussion of what the process described in the patent is *supposed* to accomplish, as distinguished from what it *actually* does accomplish, and petitioners carefully refrain from making any reference to what actually occurs as demonstrated by the evidence.

At page 15 of their petition, petitioners state:

> "The patent statutes nowhere require any statement of a theory to explain the *why* of a new process; they require a clear prescription of the *how*. That *how* is clearly stated in the patent in suit, but the courts below found the patent invalid because the *why* seemed to have been stated incorrectly. * * *"

An examination of the opinions of both of the courts below reveals that there is no merit whatsoever to petitioners' argument that "the courts below found the patent invalid because the *why* seemed to have been stated incorrectly". It is plain from such opinions that *actuality, not theory or supposition,* was the basis for the decisions of the courts below.

## CONCLUSION

**For the foregoing reasons, the petition for a writ of certiorari should be denied.**

Dated: New York, New York, March 22, 1966.

Respectfully submitted,

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